SOAP

SANITARY CHEMICALS

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New

HORIZONS

SCUDDING off the waters and into the ether, the giant Clippers are thrillingly opening up new horizons in inter-continental travel.

And with equal enterprise, the Ungerer laboratories are continuously opening up new horizons, new possibilities in odor product research. New answers to old problems, new answers to new problems.

These new horizons which we are exploiting are sure to contain the answer to your odor problem.

Consult with

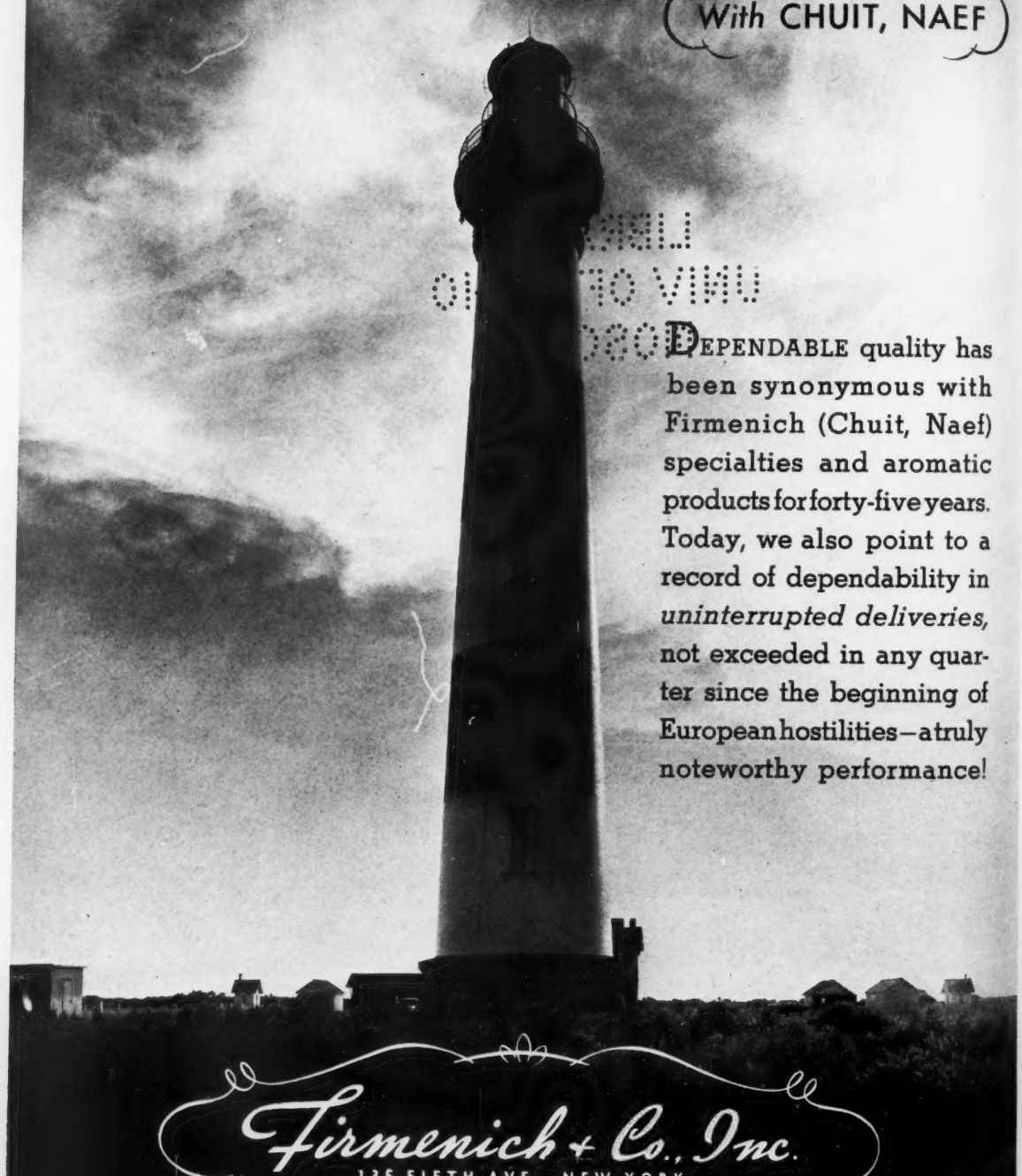
UNGERER & CO.

13-15 W. 20th St., N. Y.

March 1941

Dependability...

With CHUIT, NAEF



DEPENDABLE quality has been synonymous with Firmenich (Chuit, Naef) specialties and aromatic products for forty-five years. Today, we also point to a record of dependability in *uninterrupted deliveries,* not exceeded in any quarter since the beginning of European hostilities—a truly noteworthy performance!

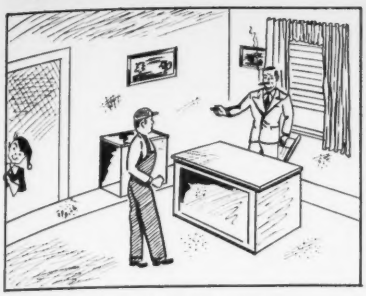
Firmenich + Co., Inc.

135 FIFTH AVE., NEW YORK

CHICAGO OFFICE: 844 NORTH RUSH STREET

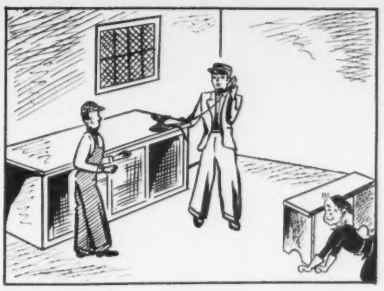
Adventures of FULDY

Copyright 1941, Fuld Bros.



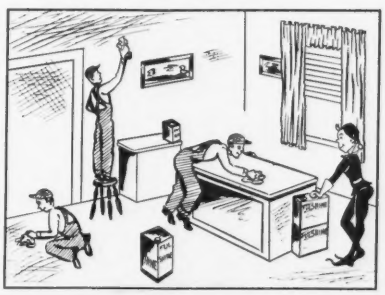
"A BIG DEAL'S ON THE FIRE . . . and Joe Janitor's on the 'pan'! Just look at this office, says the busy exec. Why, it's as dirty as a New York subway—and I wouldn't even give a nickel for it! My meeting is scheduled in 24 hours. So . . ."

"SO WHAT? SO JOE SPENT THE night working on floor, walls and furniture. But to listen to the beating he's taking, that cleaner is as effective as plain water! Either this place gets a new lease on life, screams the exec., or *my* lease goes!"



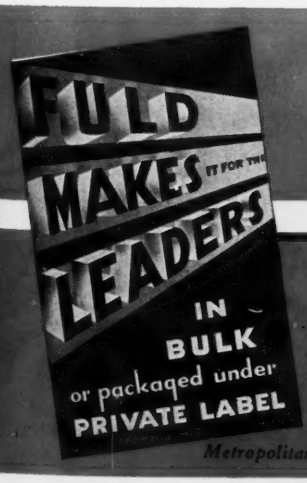
"IS JOE LOW! AND RIGHTLY SO! That guy must be alludin' to Aladdin if he thinks anything can be done now! That's what Joe tells the building superintendent . . . and that's why an emergency call is going out to a new jobber."

"HURRAY! IT WAS A FULD JOBBER . . . and yours truly flies into action! I mean *flies,* too! Joe's job and the exec.'s check are at stake! A quick trip to the Fuld jobber's to pick up FULSHINE Alkali-Proof Cleaner . . . then back to the scene of the grime!"



"SAY! LOOKS LIKE TIMES SQUARE on New Year's Eve! These janitors have a deadline to beat—and beat it they will. For FULSHINE works *fast* —needs no rinsing—and leaves a shiny, polished surface on all floors, painted walls and furniture!"

"TWO HANDSHAKES WITH A SINGLE thought—FULSHINE saved the day and the deal! And speaking of deals, one of the finest *you* can make is to tie up with Fuld Bros. complete line of regular cleaning compounds! Fuld means quality—and quality means success!"



DEODORANT BLOCKS
LIQUID DEODORANTS
LIQUID CLEANERS
LIQUID SOAPS
OIL SOAPS
INSECTICIDES

DISINFECTANTS
SELF POLISHING WAXES
PASTE WAXES
POWDERED WAXES
FLOOR SEALS
FLOOR TREATMENTS

METAL POLISHES
FURNITURE POLISHES
PLUMBING SPECIALTIES
SPECIAL CLEANERS
SOAP DISPENSERS
DEODORANT BLOCK HOLDERS

Selling Jobbers Only!

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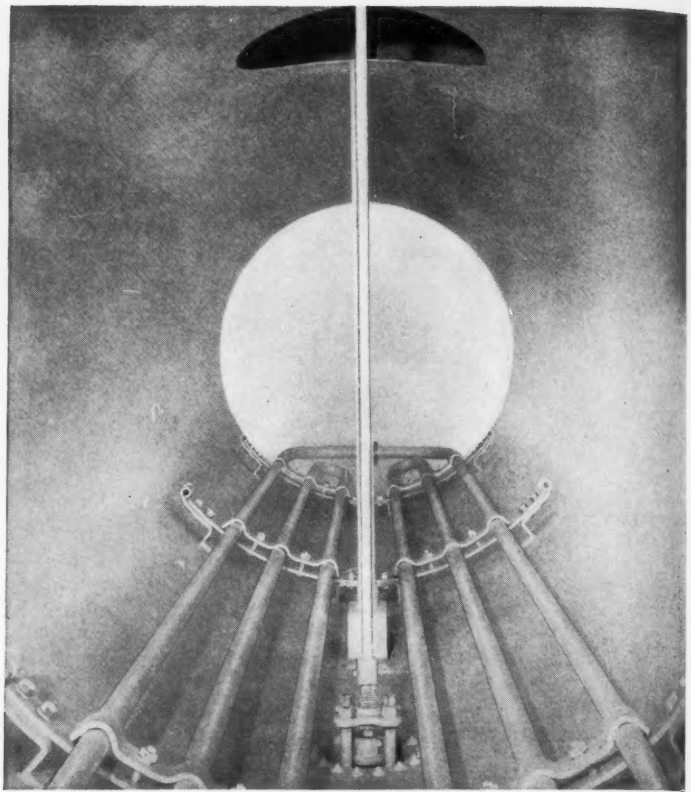
702-710 S. WOLFE STREET, BALTIMORE, MD.

Sales Offices: SEATTLE • KANSAS CITY • SAN FRANCISCO • BOSTON

Metropolitan N. Y. Office: 127 TROUTMAN ST., BROOKLYN, N. Y. *Telephone:* EVergreen 8-2498

$10,000 PACKAGE FOR A PRODUCT COSTING LESS THAN 2¢ A POUND



Interior of new Columbia Liquid Caustic Tank Car

LIQUID Caustic Soda — even at less than 2¢ a pound — is a costly nuisance if it arrives in a solid chunk the size of a tank car. It may prove worthless if it has picked up metallic contamination en route.

For two full years, we've scored 100% at delivering Liquid Caustic in perfect condition. Because we initiated the development of the most effectively insulated car ever available for the job—and originated the first protective coating capable of keeping even 73% liquid caustic pure en route. Columbia Caustic—in Columbia cars does not pick up metallic contamination. It *stays* liquid throughout normal shipping schedules.

As you might expect, ours is the first complete fleet of the cars now widely known as the "Columbia" type. As you already know, if you now use Columbia products, we think such an expensive "package" for such a low cost material well worth developing. The care we take with their making and handling is the final plus that makes Columbia products more profitable for their users.

ESSENTIAL	• SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE • SILENE
INDUSTRIAL	• LIQUID CHLORINE • CALCIUM CHLORIDE • HENNIG PURIFIER
CHEMICALS	• MODIFIED SODAS • CAUSTIC ASH • PHOSFLAKE • CALCENE

COLUMBIA
COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY

Columbia Chemical Division

30 ROCKEFELLER PLAZA

NEW YORK, N.Y.

Chicago • Boston • St. Louis • Pittsburgh • Cincinnati • Cleveland • Minneapolis • Philadelphia • Charlotte

Volume XVII Number 3

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

MARCH
1941

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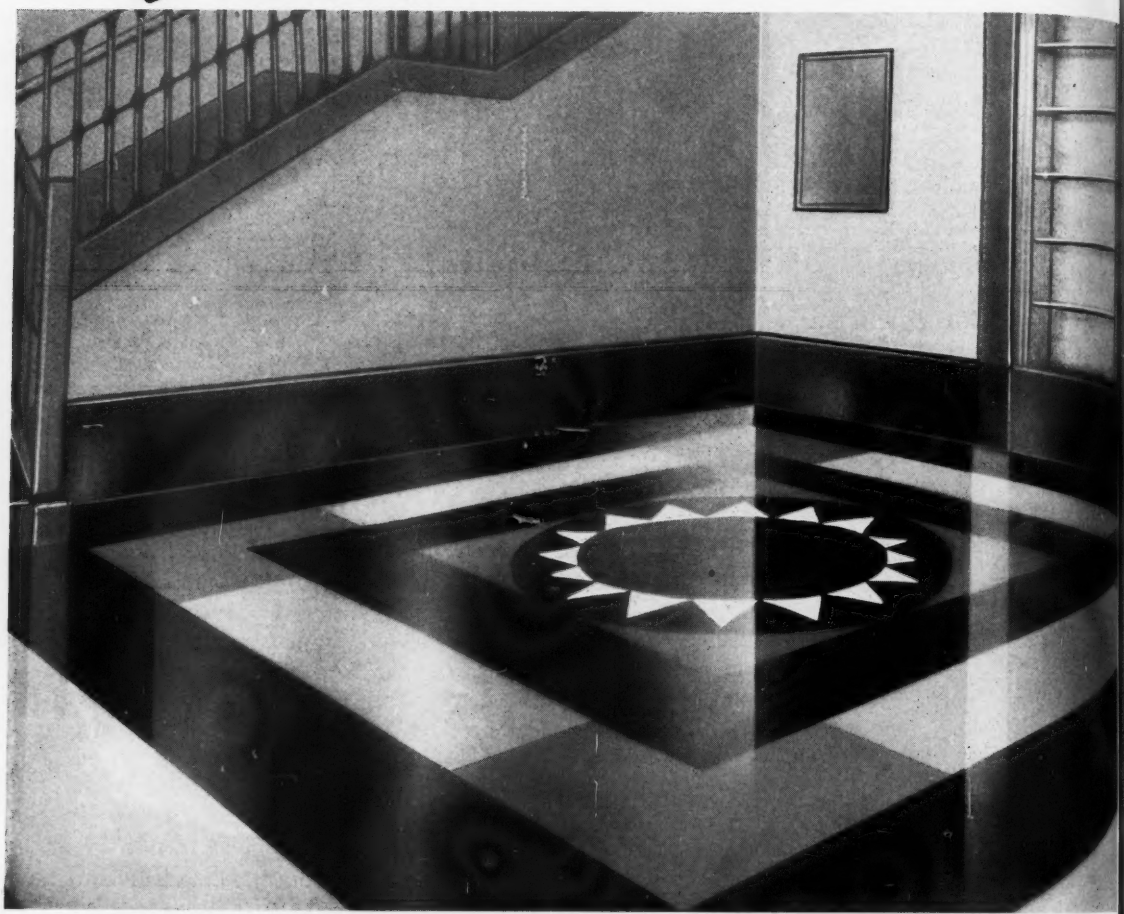
Published by

MAC NAIR-DORLAND COMPANY, INC.
254 WEST 31st STREET NEW YORK, N. Y.

Subscription rate, $3.00 per year. Foreign, including Canadian, $4.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter, Feb. 9, 1938, at Post Office, New York. under act of March 3, 1879. Mail circulation, February, 1941, issue, 4,036 copies. Total circulation, 4,450.

Buy All your WAXES and



SUPER-WAX

Higher gloss combined with less slip . . . for the first time in a commercial wax. That's only half the SUPER-WAX story. The other half is this: SUPER-WAX offers deluxe premium quality (No. 1 Yellow Prime Carnauba base) at the price of ordinary wax.

Add them both up and you get a rough idea why HYSAN jobbers are pushing SUPER-WAX as the greatest buy in floor maintenance. In our entire history we have never presented a product that has equalled the spectacular sales success of SUPER-WAX. No matter how fast your present wax is selling, send for SUPER-WAX sales story and free sample. That's all we ask.

HYSOLENE

HYSOLENE is the new emulsion type wax floor cleaner that does away with smeary surfaces resulting from the invisible soap film left on floors after ordinary washings. When that happens they blame your wax not the soap.

It can't happen with HYSOLENE. This new formula-discovery actually steps up the lustre. It leaves a pure wax film which sustains the non-slip factor until the next wax application. They never go back to soap washing after they try HYSOLENE. What's more, they always specify your wax, because HYSOLENE makes your wax perform like no wax ever did before. Used concentrated. HYSOLENE quickly removes old, darkened or dirty wax without injury to floors. Send for sample and further data.

Cleaners · Disinfectants · Soaps · Deodorants · Deodorant Blocks
Insecticides · Polishes · Waxes · Liquid Soap Dispensers

DEODORANT BLOCKS *from* HYSAN

Buy Premium Grades at *Ordinary* Prices . . . for *Extra* Profit on Every Sale You Make. Get Same Day Shipment, New Modern Packages, Superb Private Labels . . . Cash In on Self-Reselling DeLuxe Quality . . . Go HYSAN, and Go Places in '41.

HYSAN DEODORANT BLOCKS—in every size, shape and fragrance—contain choicer, costlier perfumes—and more of them. Each pack you sell proves it. HYSAN Blocks last longer and hold their full fragrant aroma to the very end. The combination of higher grade perfume plus extra long life seems to be what the trade wants most in deodorant blocks as evidenced by record high repeat demand. Send for sample and complete data.

JUST OUT—HYSAN'S BIG NEW CATALOG. GET YOUR COPY.

JOBBERS, send for your free copy of HYSAN'S NEW Sanitary Products Catalog—listing over 400 items — including scores of new fast-selling HYSAN money-makers available nowhere else in America. Catalog is fully indexed, profusely illustrated, and supplies the buying information you need in quick, handy form for constant daily reference. Check and mail coupon below.

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Send NEW CATALOG also samples and data as checked below.
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. . . not too late!

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DRUG — CHEMICAL

and

ALLIED TRADES BANQUET

can still be made. Telephone or wire your reservation to John C. Ostrom, Secretary, Drug, Chemical and Allied Trades Section, New York Board of Trade, 41 Park Row, New York—COrtlandt 7-1413.

Speaker of the evening . . . PAUL V. McNUTT

Everybody will be there!

Hotel Waldorf-Astoria

New York

March 13, 1941

A shining record

Crown makes the can...and the Franklin Research Company of Philadelphia makes the sales!

"Rubber Gloss Wax" is the product...and it has been building up distribution and sales in the face of the keenest kind of competition.

Whatever your packaging problem may be...consult Crown! A staff of designers, alert to modern packaging trends, is backed by an organization of real craftsmen...Crown Cans thus are made to protect your product and to promote your sales.

CROWN CAN COMPANY, PHILADELPHIA, PA.

Division of Crown Cork and Seal Company

BALTIMORE ST. LOUIS HOUSTON MADISON ORLANDO
FORT WAYNE NEBRASKA CITY

INDEPENDENT AND HELPFUL **CROWN CAN**

IDEAL FOR PARADICHLORBENZENE BLOCKS AND CRYSTALS

PARA-PERFUMES

made especially for

PARADICHLORBENZENE

PARA-PERFUMES are not just another assortment of odors. Our years of experience and experimentation have proven to us that for best results in the perfuming of paradichlorbenzene, certain aromatic ingredients are suitable, while many others are not. Continuous research has taught us, too, the correct materials to use, many of them manufactured at our own plant. When you buy Felton's Para-Perfumes you profit by this experience and guarantee yourself the best there is to be had.

PARA-PERFUMES are available in a complete series of popular odors and are economically priced—too.

WRITE US TODAY and we shall be glad to send you suitable testing samples.

FELTON
CHEMICAL COMPANY, INC.
603 JOHNSON AVENUE
BROOKLYN, N. Y.

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER and FLAVOR OILS

Branches in Principal Cities

The sardine can that gave father fits

The Story of a Packaging Problem

FATHER'S fishing trips generally went smoothly until he tackled his lunch.

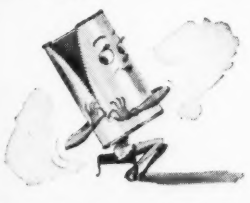
Then, while the coffee came to a boil, father'd turn his attention to the sardines. Always an optimist, he'd start twisting the opening key with bland assurance. And for a few turns all would be well.

Then the key would get balky. Father would pause, take a firm grip on the key and a still firmer one on his temper. The key would still refuse to budge. So father usually resorted

to anything from a gaff to a camp axe to use as an opener for the sardine can.

Sometimes, father would win. Sometimes, the can would. In either case, the birds and the squirrels heard a lot of new words.

Today, hundreds of millions of key-opening cans, in which rest sardines, meat, coffee, vegetable compounds, and what-not, are as easy to open as if they had zippers.



This *is* a change. And what brought it about? A man whose calling in life was dentistry . . . American Can Company . . . *and the thickness of three human hairs!*

This dentist, when he wasn't pulling teeth, was an inventor. The patent on one invention (#1298683) described it as "an improved tearing strip for key-opening cans."

When we at American Can Company looked into this patent, we found that this dentist had almost hit it. For in most cases his improved strip tore evenly and cleanly, wound up into a neat little roll on the key as you turned it.

Still—this improvement would go haywire quite often . . . annoyed us. So we went to work.

We found we could *improve* even the "improved" tearing strip by controlling the depth of the scoring.* So this story gets into our laboratories . . . gets way in . . . *under a microscope.*

For the "depth" we're now talking about is microscopic. Nobody had ever measured the depth of such tiny scoring lines before. There were no instruments to do it. There was no method.

So we invented one—a costly, complicated mechanism. It cost thousands of dollars. And all it does is

simply measure and control *six thou-sandths of an inch* . . . the depth of a scoring line, which is about the thickness of three human hairs!

The result has been worth many times what it cost in money, time, and brains. For today we make hundreds of millions of key-opening cans a year—and believe it or not—*not one goes haywire!*

This taming of the key-opener typifies the inordinate pains to which

American Can Company will go in ironing out the details of any packaging problem.

*Scoring. Can manufacturers' term for the tiny, parallel scratches at the edge of a can which are cut by knife edges into the tin plate.

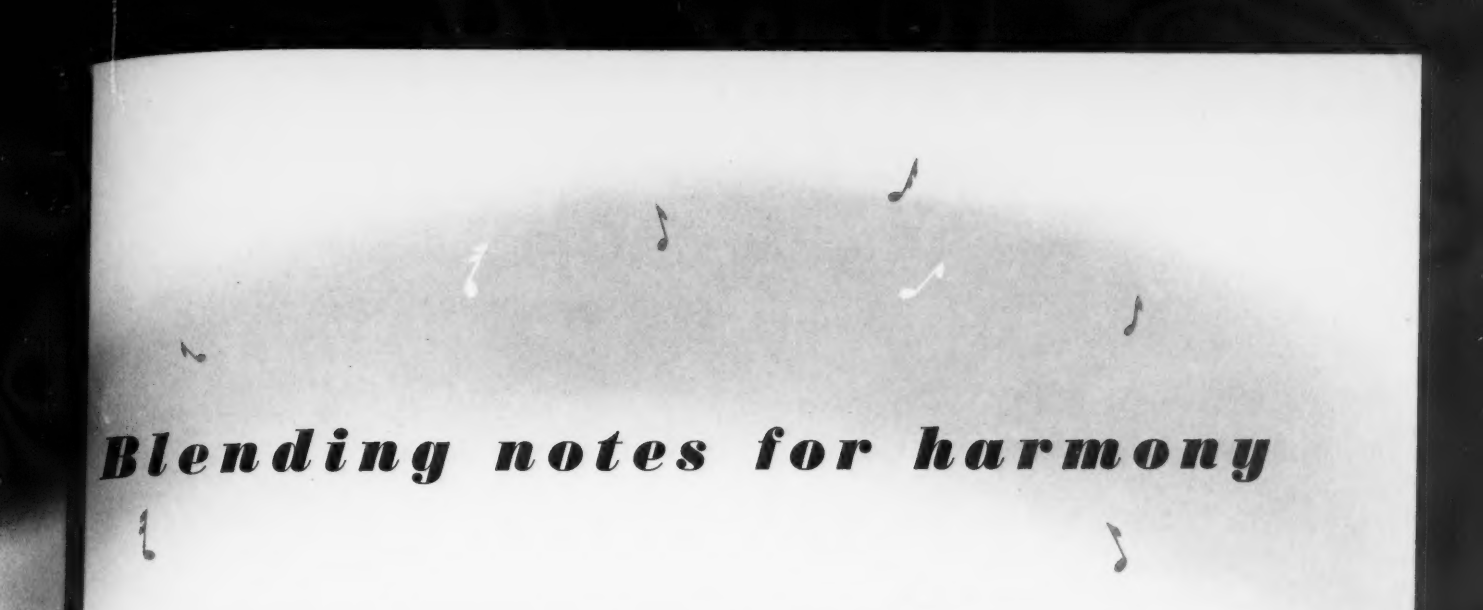
CANCO

What American Can Puts Against Packaging Problems

- 5 laboratories employing 134 people college trained in the pure, natural, and engineering sciences.
- 13 points from which customers' machinery is serviced . . . 6 points at which customers' machinery is built.
- 67 plants located strategically in the U. S., Canada, and Hawaii.
- A factory-trained sales staff who are specialists in many different types of industry.
- An executive personnel backed by a financial strength that is in itself a tangible business asset.

AMERICAN CAN COMPANY

230 Park Avenue • New York, N. Y.



Blending notes for harmony

The composer of music is endowed with a special skill, calling for special knowledge and an unerring instinct for blending the right notes and overtones to achieve harmonious effects. So, too, is the skill of the creative blender of perfume and cosmetic odors a special skill, in which training and an indefinable "gift" are essential.

Givaudan's staff is comprised of men of training and experience who possess that "gift"—as is demonstrated by the long list of successfully blended odors that have come from the Givaudan Laboratories. Their technique is applied to the creation of a great variety of effects for use in many types of products—perfumes, creams, soaps, powder, lipsticks, rouges, colognes, bath salts, hair tonics, toilet waters and others. Many of these odors may be used throughout entire cosmetic lines. To manufacturers Givaudan offers the cooperation of these men in developing new odors and adapting others to the changing needs of seasons and styles. You will find their assistance a source of profit and economy. And in the hundreds of carefully produced Givaudan materials you will find many opportunities for improving or economizing your production. Samples and prices on Givaudan products will be sent to you on request.

HIGHLIGHTS-OF-THE-MONTH

In line with our program of developing in the laboratory and making commercially available high quality substitutes for natural oils which are becoming increasingly difficult to obtain, Givaudan offers—

BERGAMOT ARTIFICIAL GD

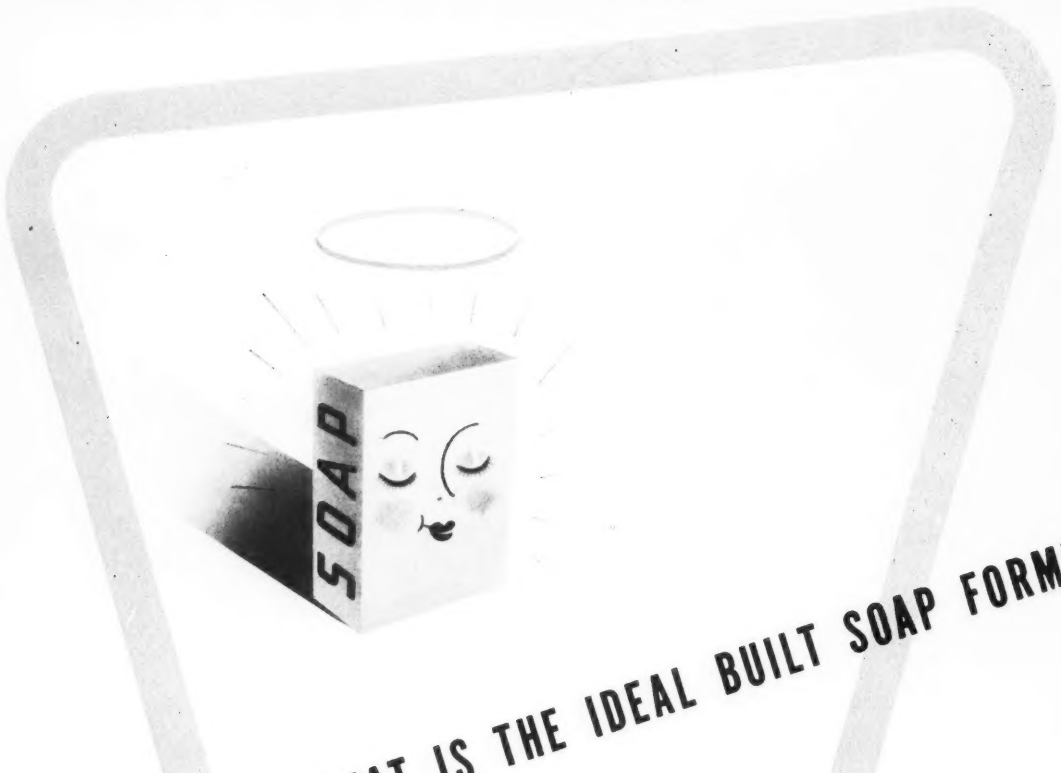
BERGAMOT ARTIFICIAL EXTRA FINE

Both of these products are remarkably faithful reproductions of the natural product and are highly economical to use. In practically all cases where natural Bergamot has been a part of a perfume formula, Bergamot Artificial Extra Fine may be used effectively. In soaps both substitutes can fully replace the natural product—in some cases it has been found that they are even more satisfactory from an olfactory standpoint than the natural Bergamot itself.

Givaudan will be glad to supply, on request, samples and more complete information on the uses of these timely developments.

GIVAUDAN-DELAWANNA, INC.

330 WEST 42nd STREET, NEW YORK, N. Y.



WHAT IS THE IDEAL BUILT SOAP FORMULA?

Whatever your requirements may be, we believe Monsanto's Tetra Sodium Pyrophosphate is a valuable addition to any built soap formula... for both domestic and industrial use.

We will be glad to demonstrate the characteristics of Monsanto's Tetra Sodium Pyrophosphate... help you incorporate its efficiencies into your built soap, by placing Monsanto's technical service at your disposal. MONSANTO CHEMICAL COMPANY, Phosphate Division, St. Louis, U. S. A. District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Montreal.

PURITY... Monsanto's Tetra Sodium Pyrophosphate is manufactured from Monsanto-produced elemental phosphorus which tests better than 99.9% pure. You can be sure of availability, for Monsanto is the world's largest producer of elemental phosphorus.

SOME MONSANTO PRODUCTS FOR THE SOAP INDUSTRY:

Tetra Sodium Pyrophosphate	**Tetra Potassium Phosphate**
Tri Sodium Phosphate	**Special Phosphates**
Di Sodium Phosphate	**Sopanox**
Mono Sodium Phosphate	**Santomerse**

MONSANTO CHEMICALS
SERVING INDUSTRY... WHICH SERVES MANKIND

Quality Repackaged Products
BEGIN WITH
Quality BASIC Products

THIS COMPLETE LINE FOR Household Cleansers, Commercial Cleansers, Soap Powders, Bath Crystal Bases, Household Bleaches, Drain Pipe Solvents, Demothing and Deodorizing Preparations, Termite Control

SOLVAY SNOWFLAKE* CRYSTALS—Pure white, crystalline sodium sesqui-carbonate, immediately and entirely soluble, always free running, Solvay Snowflake Crystals is an excellent water softener and effective soap saver.

Perfect solubility enables this mild cleanser to do its work without leaving a residue. Snowflake Crystals also makes a perfect base for bath salts.

SOLVAY SPECIAL CLEANSERS—mixtures of basic materials used in all general cleansing. Solvay manufactures a complete line of these cleansers, covering every cleansing need which can be filled by the use of milder types of alkali. The Solvay Products book, which describes these products, can be obtained from any office of the Solvay Sales Corporation.

SOLVAY SUPER ALKALIES—Solvay Super Alkalies are specially prepared mixtures of a stronger type than the Special Cleansers. These alkalies are well adapted to the heavy duty type of cleaning.

Full information will be supplied promptly upon request.

SOLVAY DETERGENT—Detergent of a special grade adapted to various kinds of scouring, is another Solvay line which is providing profitable business opportunities in private label brand.

Another field in which Solvay quality enables you to beat competition! Full information upon request.

SOLVAY FLUF*—Fluf makes an ideal cleanser to add to your line of repackaging products. It is an extra light soda ash made especially fluffy, bulky and light by a process that is exclusive with Solvay. Its weight per cubic foot is approximately ⅔ that of regular soda ash.

Fluf is particularly valuable where maximum bulk with minimum weight is required, as in repackaging.

SODA ASH—58% Dense, Light and Extra Light—Solvay Soda Ash is made of materials selected with the utmost care. It is a product of high purity, controlled in its manufacture by rigid specifications that have been formulated through more than half a century of experience.

50th ANNIVERSARY 1881 • 1941

*Reg. U. S. Pat. Off.

SOLVAY SALES CORPORATION

Alkalies and Chemical Products Manufactured by The Solvay Process Company

40 RECTOR STREET NEW YORK, N. Y.

BRANCH SALES OFFICES:

Boston • Charlotte • Chicago • Cincinnati • Cleveland • Detroit
New Orleans • New York • Philadelphia • Pittsburgh • St. Louis • Syracuse

CAUSTIC SODA—Solid—Flake—Liquid—Ground—Powdered—The high standard of quality which The Solvay Process Company has established in the alkali field is well exemplified in Solvay Caustic Soda—made from soda ash manufactured by the Solvay process. For the convenience of the consumer, Solvay Caustic Soda is delivered in the five forms listed above.

CAUSTIC POTASH—Solid—Flake—Liquid—The same high quality that has earned for Solvay Caustic Potash Liquor a preeminent place in the field is also obtainable in the Flake and Solid forms. Solvay Caustic Potash typifies the excellence which has made Solvay Products the outstanding choice of soap makers everywhere.

SOLVAY PARA-DICHLOROBENZENE—Wide selection of grade sizes in Fine—Medium—Coarse—Super-Coarse Crystals—Especially well adapted to block manufacture. Solvay Paradichlorobenzene is supplied in many carefully graded crystal forms, insuring perfect blending with colors and perfumes.

A product of exceptional purity. Delivered in a selection of packages wide enough to meet all marketing needs. Write today for prices and full information.

SOLVAY ORTHODICHLOROBENZENE—For making insecticide sprays, metal polishes and grease and tar solvents. It cuts greasy films and dissolves most metallic oxides. A water-white liquor, shipped in 55 gal. drums and 5 gal. cans.

The important ingredient for the termite exterminating solutions.

SOLVAY SALES CORPORATION
40 Rector Street, New York, N. Y.

Gentlemen: Please send me a copy of the Solvay Products book, which gives complete information on all Solvay Products.

Name.....

Company.....

Address.....

City..... *State*.....AJ-341

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DISTRIBUTORS WANTED FOR NEW REX PROFIT MAKERS!

THE FLOOR MACHINES THAT ARE "CLEANING UP" ON SALES

Today, thousands of schools, hospitals, hotels, theaters, office buildings and factories throughout the country offer a rich field of profits to the Rex distributor . . . for these smooth, super-powered machines are fast building a reputation for top efficiency in floor and carpet maintenance. Compare them point for point with any other machines on the market . . . see what a Rex franchise offers you in easy-to-make profits!

Write for full details today.

EXCEPTIONAL FEATURES

MOTOR: Powerful geared-head ball bearing . . . quiet and cool in operation.

GEAR ASSEMBLY: 4 finely ground gears, bronze against steel, running in oil. Compactly assembled.

BASE CASTING: Best grade aluminum, accurately molded and highly polished.

HANDLE COLUMN: 1¼" chromed steel tubing. Bent slightly for easier operation. Adjustable for length.

SAFETY SWITCH: Switch lever is held "in contact" with the hand at handle-bar. When released, switch automatically opens circuit.

SPLASH-PROOF CAP: Prevents dust and water from entering motor.

ELECTRIC CORD: Heavy duty, rubber-covered cord, approved by Underwriters. Cord protector spring prevents breaking at handle connection.

REX ELECTRIC FLOOR MACHINE

The motor and gear assembly of this compact machine is one complete unit. . . . a feature that makes for maximum efficiency, balance and durability.

FIVE MODELS

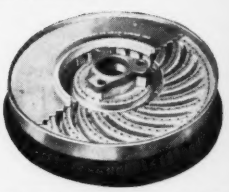
Model	Brush	*Weight	Brush R.P.M.	Cord
12	12"	68 lbs.	178	No. 16
14	14"	76 lbs.	178	No. 14
16	16"	87 lbs.	178	No. 14
19	19"	145 lbs.	178	No. 12
22	22"	164 lbs.	178	No. 12

*Weights may have a tolerance of 5%.

See our exhibit at the National Sanitary Supply Asscciation Convention, Jefferson Hotel, St. Louis, Mo., April 21-23.

RUG & FLOOR SCRUBBER

The regular Rex Floor Machine is easily converted into a floor scrubber or rug shampooing machine by adding a detachable solution tank and Centrifugal Brush. Cleaning solution is released through brush as needed. The dirty solution is then squeegeed off or picked up by a separate vacuum cleaner.

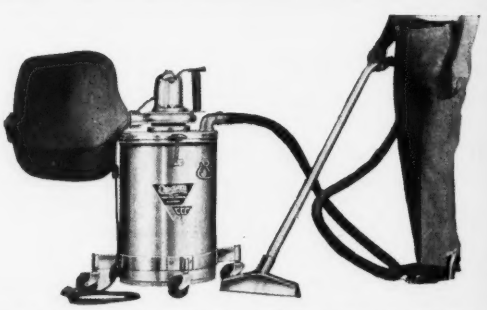


CENTRIFUGAL BRUSH

Spiral-shaped grooves and perforations in the all-metal back cause solution to be distributed uniformly through bristles onto floor or rug.

CAR-NA-VAR VACUUM-SCRUBBER

For scrubbing all floors; shampooing rugs and carpets on the floor. Simultaneously scrubs and picks up dirty solution. Adjustable to operate sideways or backward and forward. Two sizes—13½" and 15".



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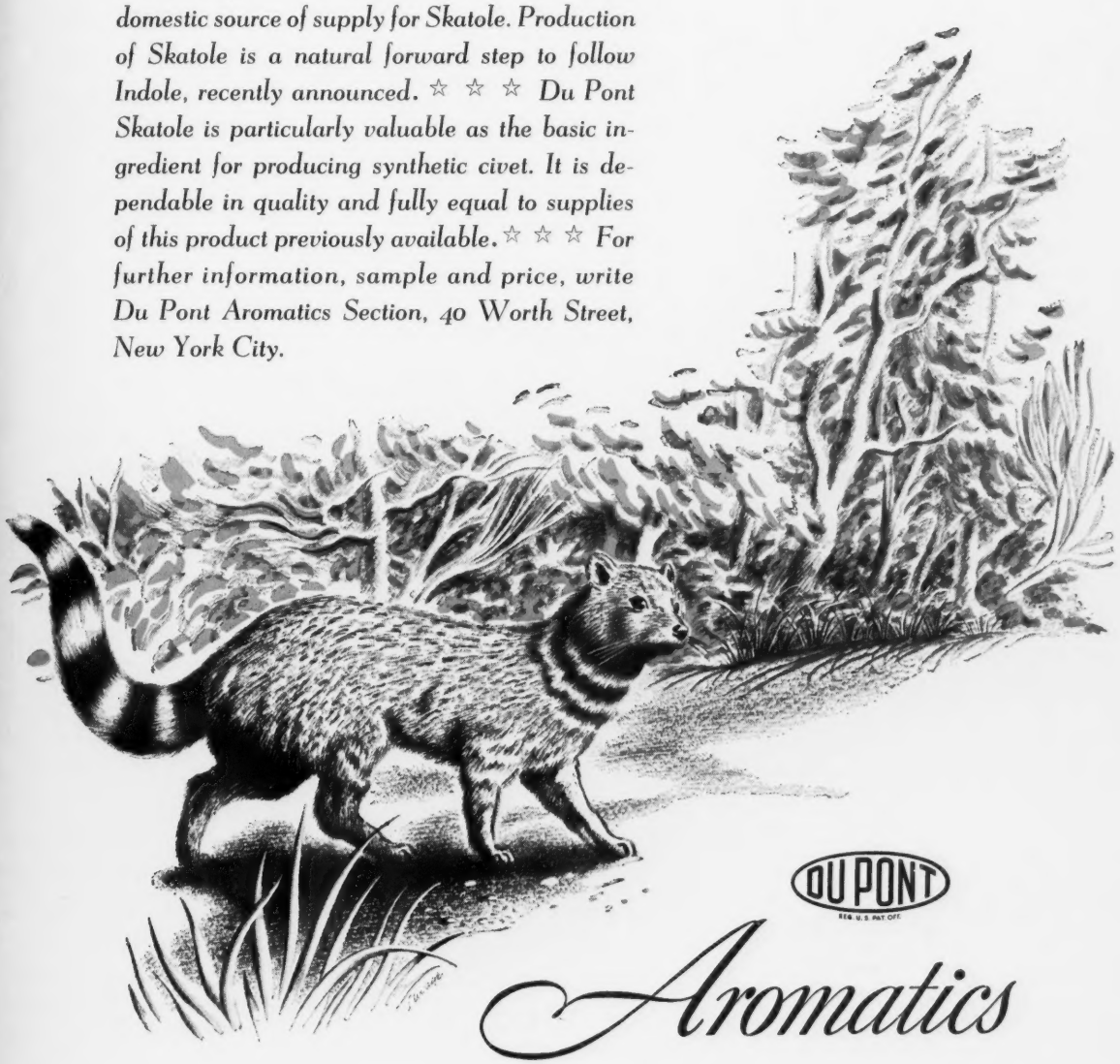

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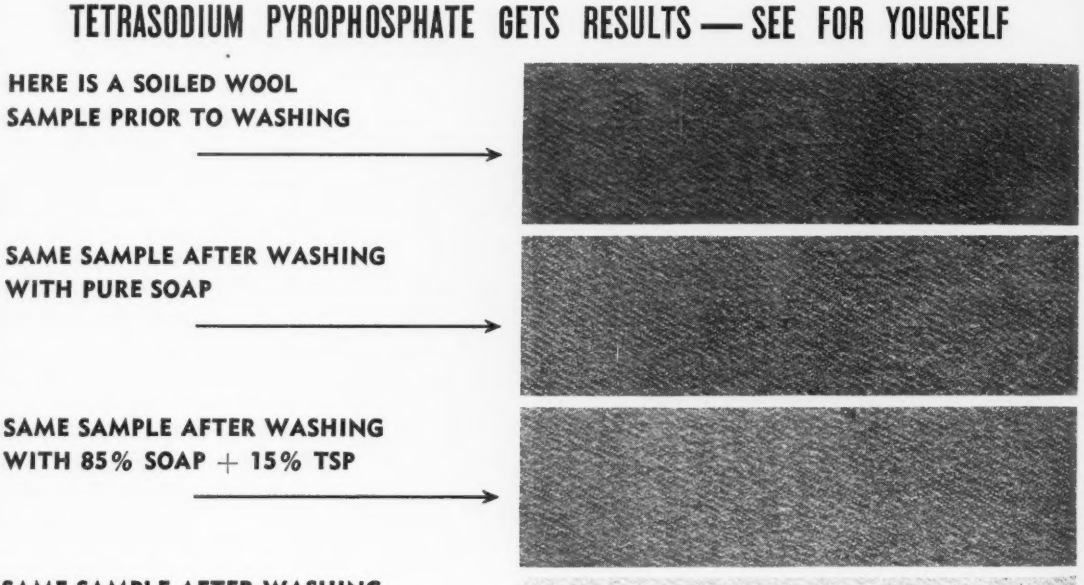
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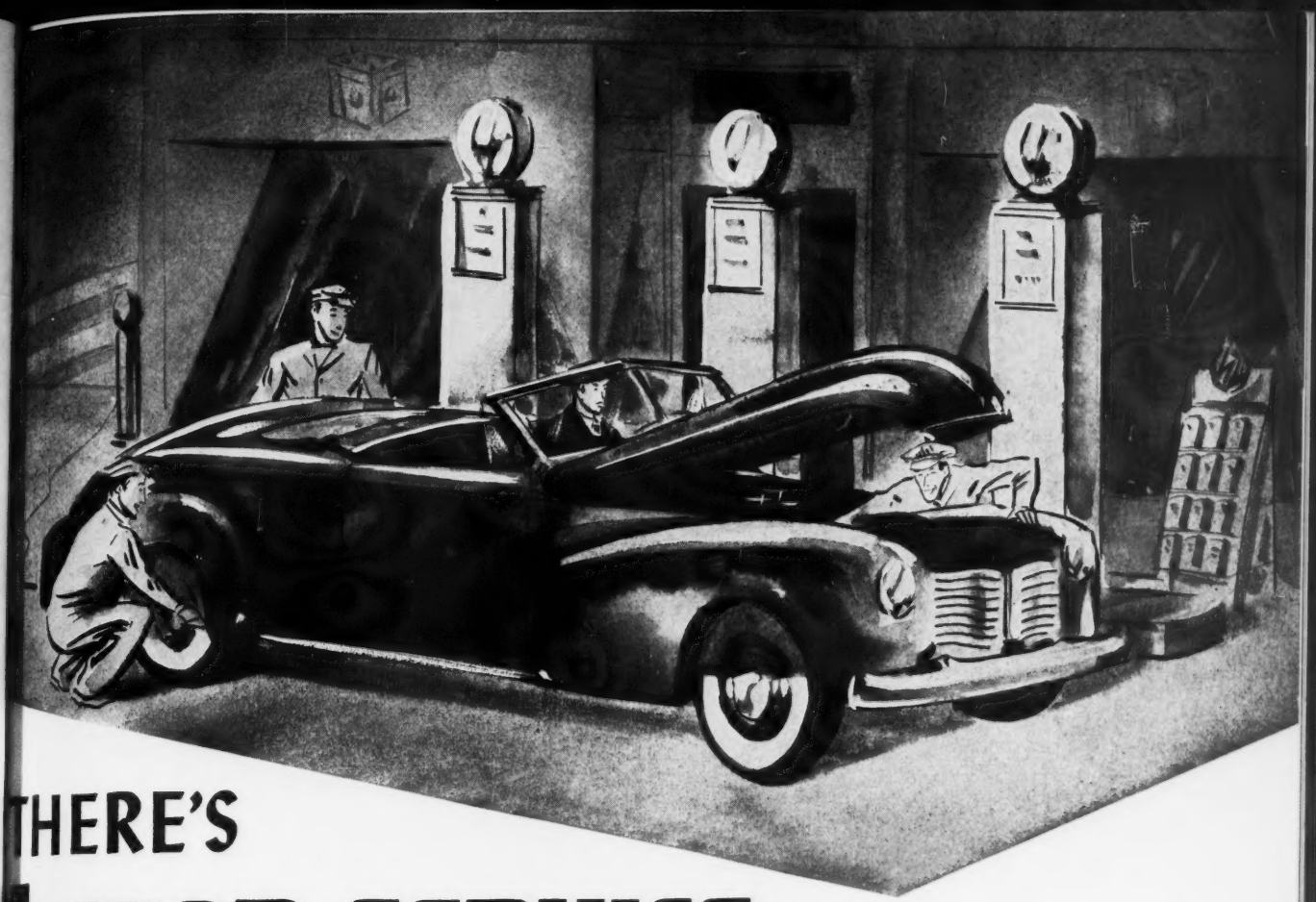

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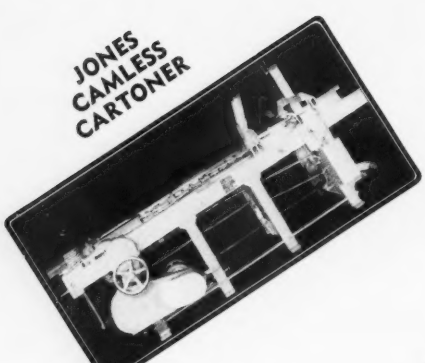

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Dear Mr. Jones:

I have purposely delayed writing you pending the results of the running tests of the new machine.

The machine arrived in excellent order, and we had it running in short time. We congratulate you on turning out such a splendid job, and you will be pleased to know that it is giving the utmost satisfaction. We particularly like the clear-cut design and the simplicity of operation, and can assure you that it is proving a great asset to our plant.

With kindest regards, yours sincerely,

NICHOLAS PROPRIETARY LIMITED.

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This letter refers to a machine which packages a strip of Sanitaped Aspro tablets, with an advertising leaflet wrapped from end to end over its entire length, in a folding carton.

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Did you ever hear of any other cartoners going abroad?

Most countries impose a heavy tax on imported machines. Yet JONES machines return their purchase price plus import tax in a short time and win re-orders.

Duty free in this country they earn their cost in even less time.

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R. A. Jones & Co., Inc., Cincinnati

AS THE EDITOR SEES IT

ADDED to the soap manufacturer's problem of net weight marking on packages is the trend among state law makers now to give greater attention to the question of package fill. This more recently extended activity is probably induced by the same idea as carried out under the Federal Food, Drug & Cosmetic Act. At any rate, slack-filled packages of any and all kinds are now being frowned upon more pointedly than ever if we may judge by the samples of the law-making art currently before various state legislatures.

The problem of package fill for the manufacturer of soap powders, flakes, chips, granules and powders is a serious one. The physical nature of the products,—loss of moisture by evaporation and packing down as a result of this and fragility,—make this a problem difficult of solution. In fact, there are those in the soap industry who maintain that it cannot be solved, at least not in the manner as would be required by some state laws. They maintain that the packages are full when they leave the factory, and that a manufacturer can do no more than fill his package to the brim. Weight losses and shattering of the soap particles which follow as a result of evaporation and handling, are inherent characteristics of the products, and law or no law, they cannot be changed. And to add further to the difficulty, the manufacturer has no control over these conditions, for what happens with rough handling plus a hot, dry climate may not be true elsewhere.

Unless the industry undertakes to standardize on the sale of a dense, powdered anhydrous soap, we are inclined to agree that there is not a ready solution for this problem. It's just the nature of the beast,—but quite evidently not too many state legislators in their ardent efforts in the public service appreciate this.

FOR some time, the American soap industry has been well aware of the fact that its labor record under the Wages and Hours Law has been a good one. On several occasions, we have "pointed with pride" to this record. Now, we have gone a step further and have had prepared for publication an analysis of the labor record of the soap industry,—this analysis being prepared for us by none other than the U. S. Department of Labor. This Department, as is quite well known, has not been in the habit of pulling its punches, especially in the direction of industry. So when we say that their analysis of labor in the soap industry confirms with minor exceptions this general impression of a fine record, it can be put down as fact. We feel that the soap industry can point to the analysis, which will be published next month, with very justifiable pride.

ABOUT two years ago, the Federal Trade Commission ordered a soap manufacturer to cease and desist using "olive," or any word or derivative with a like meaning to designate or describe any soap which was not made wholly of olive oil. Now, that order has been changed and a new one issued which permits the soap

manufacturer to use "brand names containing the word 'olive,' . . . to describe a soap containing olive oil combined with other oils if the respondent shall clearly and truthfully designate that such soap is not made wholly of olive oil, and if olive oil is present in an amount sufficient substantially to affect its detergent or other qualities."

The original order in this case was modified by direction of the United States Circuit Court of Appeals upon petition of the soap manufacturer. In our opinion, the decision is not too much to the credit of the F.T.C. which might well over the past two years have expended the money and effort in more fruitful endeavor. As far as the public interest is concerned, we cannot see that much was or could have been accomplished. The main demand of the Commission,—the complete ban of "olive" on any soap unless made wholly from olive oil,—was rejected by the Court. Now, all we have to determine is how much olive oil is "an amount sufficient substantially to affect detergent and other qualities." This latter could mean almost anything if chemists and lawyers go to work on it.

THIS business of how much soap was sold in 1940 is becoming somewhat of an "off again, on again, Finnegan" affair. Several months ago, following the publication of soap sales figures for 1939 of three-and-a-half billion pounds, we hazarded a guess that 1940 would also approximate this largest-in-history tonnage. But we were told from several quarters in the soap industry that we were off the track, and that 1939 was an exceptional year because of the outbreak of war, and that 1940 would be at least ten per cent below the 1939 tonnage,—and that we were too goshdarn optimistic about everything anyway. So we publicly apologized for our undue optimism.

Now, from the figures of the Association of American Soap & Glycerine Producers, we learn that owing to the largest fourth-quarter in history, 1940 did not drop off as much as expected, but was really a big year in spite of the heavy tonnage of soap supposedly carried over from 1939 by over-anxious buyers. In short, the 1940 tonnage was only four per cent under the 1939 record, and the value of 1940 down three-and-a-half per cent in dollars,—all of which means that the 1940 figure was very close to the 1939 level of three-and-a-half billion pounds even if it did not reach this peak. So, we must now withdraw our recent apology, or at least six of the ten per cent which we conceded, —and state that we hope 1941 breaks the 1939 record.

COMMENTING not so long ago about cleanliness among the men of our rapidly expanding armed forces, a U. S. Army officer had the following to say regarding the soap issued by the Army Quartermaster: ". . . guaranteed to remove the skin from a walrus and to smell like the dregs from a chemical factory."

There is a peculiar psychology behind this description of Army all-purpose soap,—the psychology among those in the Army that anything and everything which comes to them free via the Quartermaster Corps is cheap and no-good. As such, these complaints should not be taken too seriously by those in the industry who cut their prices all to pieces for the privilege of supplying the stuff. We hope that their feelings are not hurt as much as their profits.

From this criticism, there arises an idea,—an idea in keeping with the 1941 style of recruiting and training soldiers, in keeping with the newer trend in soldiering. Add fancy toilet soaps to the standard list of Army materiel,—gardenia, violet, etc.—(do we hear cheers from the soap industry?)—and talcum powder too, and maybe a bubble bath once monthly. For in this day and age, it must be obvious that strong, ill-smelling Q.M. issue soap simply does not come up to the esthetic expectations of the modern soldier.

BLEACHING...

Some observations in the soap factory by

J. M. Vallance

NOT wishing to trespass unduly upon the ground covered so admirably by C. R. Kemp in his article, "*Bleaching in the Soap Plant,*" which appeared in the June, 1938, issue of this journal, my comments here will therefore be limited to an analysis of one or two methods not discussed by Mr. Kemp and to a few personal observations on bleaching problems in the soap plant in general. In the first place, I propose to deal with an aspect of the subject that is of considerable topical interest, namely the bleaching of palm oil. The most important methods employed for this purpose may be tabulated as follows:

(a) Air bleaching
(b) Chromic acid (bichromate with either hydrochloric or sulfuric acid)
(c) Fuller's earth (with or without sulfuric acid, activated carbon, etc.)

Air bleaching is very economical and gives reasonably good results, although air-bleached palm oils do not usually come up to the color standard of those treated by other processes. An important factor in favor of air bleaching is that there is no loss of oil, as may well be the case with earth treatments, nor is there the possibility of contamination as occasioned by insufficiently washed chrome-bleached oils. Inferior grades of oil, such as brownish red Congo varieties, cannot be satisfactorily bleached by air treatment, and resort must therefore be had to one of the chemical processes. Very good bleaches have been experienced with soft palm oils, first treated with a coagulant and subsequently blown with air. Although air-bleaching is an oxidation process facilitated by heating, it has been found that the use of oxygen itself is unsatisfactory, quite apart from considerations of cost, owing to undesirable chemical reactions which bring about changes in the constitution of the oil.

As a preliminary to air bleaching, palm oil should be melted and strained to remove fibrous materials and other sizeable solid impurities. Boiling over a 10 per cent common salt solution, with the aid of wet steam, further refines the oil, which

is then run off at the higher level into the bleaching kettle. The latter is mechanically adapted to bring about intimate contact between the oil and air, devices for achieving this object varying from simple blowpipe equipment to paddle wheels, two-vessel arrangements with the upper tank suitably perforated, and Koerting's steam jet air-suction apparatus. The oil should be kept at a temperature of between 65° and 100° C., during the bleaching process, the upper limit being the more satisfactory in practice. The maximum duration of the air bleaching process is about 8 hours for 20 to 25 cwts. of palm oil, but in some plants even 2 hours has proved ample for the bleaching of selected grades, free from dirt and water. As accelerators for the air-bleaching process, traces such as 0.01 per cent of cobalt borate or resinate have been suggested. Cobalt borate, used with an oil heated to 90° C. is claimed to have given optimum bleaching in a period of from 1½ to 2½ hours.

THE bleaching of palm oil with earths, clays and activated carbons is becoming increasingly popular among British soapmakers, and much interest has been shown of late in the combined sulfuric acid-Fuller's earth process, which has been colloquially termed the "s.a.f.e." process. This method is also suitable for palm kernel oil and tallow. Before sketching in outline this hitherto little discussed process, it will, however, be as well to consider the conventional acid refining of oils with concentrated sulfuric acid, a procedure that calls for much care and experience. According to Davidsohn, from 0.6 to 1.5 per cent of concentrated sulfuric acid 66° Bé. is slowly run into the oil that is to be treated. A kettle lined with appropriately resistant metal is, of course, necessary. The oil is thoroughly stirred during the addition of acid. The H_2SO_4 has a dehydrating action whereby dissolved products, such as mucilages, etc., are precipitated and carbonized. If too much acid is present, or if it acts for a prolonged time, it attacks the oil itself. The acid also inactivates the enzymes, which may be responsible for decomposition and rancidity of the oil. At first the oil is colored green by the acid, but later jet-black. A drop placed on a porcelain plate appears to be water-white, with interspersed dark flakes. After four to five hours the flakes settle out completely, when some water is added and the oil left to clarify further. The upper layer consists of oil purified in this manner, the lower layer of the decomposed proteins, etc., with a certain amount of retained oil mixed with unchanged sulfuric acid (the latter may sometimes be seen in a separate bottom layer). This deposited oleaginous layer can also be worked up to technical products, among which the organic sulfoacids are particularly important.

With this may be compared the use of hydrochloric and sulfuric acids in the chrome bleaching process, where their chief function is to assist the liberation of nascent oxygen. In the sulfuric acid-Fuller's earth process, the function of the acid appears to be two-fold; not only does it tend to exert a useful dehydrating action but it also enhances the bleaching properties of the earth by neutralizing its basic constituents. This theory is, I admit, somewhat of a supposition on my part, for the exact mechanism of the process is but little understood. In fact, considerable discussion has centered during the past 20 years around the question of whether the bleaching action of absorbent earths is chemical or physical in character. In other words, bleaching by these means still rests largely upon an empirical basis; here the practical soapmaker works in advance of the theoretician.

The fact that the highest percentage of fats and oils bleached for soapmaking purposes is accomplished by bleaching with earths and activated carbons, is not difficult to understand, when one takes into consideration the complete reliability of these adsorption agents, due to the actual removal of coloring materials, mucilage, etc., instead of mere modification, as is almost invariably the case with oxidizing agents (hydrogen and benzoyl peroxides, potassium bichromate and permanganate, etc.) and reducing agents such as the salts of sulfurous and hydrosulfurous acids.

Fuller's earth may be used as a bleach, either by itself or with an activated carbon or sulfuric acid. The grade of earth purchased should be subjected to very careful selection. Usually from 5 to 12 per cent is required for palm oil bleaching, though E. T. Webb has given average figures of 2 to 5 per cent and Dr. Geoffrey Martin the incredibly low minimum of 0.2 per cent. The relative dryness and degree of acidity of the earth under test are factors of considerable importance. The oil is pumped into a steam-jacketed mixing tank and raised to a temperature of about 90° to 100° C., at which the Fuller's earth is added with continual stirring. Bleaching normally takes anything from 15 minutes to 2 hours, depending upon the oil under treatment, the quality of the earth, and the mechanical efficiency of the stirring equipment. Proprietary activated clays need only be used in much lower concentrations and, while they are more costly, they nevertheless yield good returns in better bleaching, economy of time and labor, and a considerable saving in the amount of oil left in the filter cake.

A word or two on the utility of vacuum equipment for use in conjunction with bleaching operations should here be interpolated. If bleaching is carried out in vacuum, the temperature of the oil may be lowered by ten or more degrees; moreover, oxidation changes are avoided. This latter is a particularly important factor when dealing with readily oxidizable drying oils like linseed, hemp and sunflower seed, but is also well worthy of consideration for the bleaching of oils and fats in general. There is no improvement of the bleaching itself brought about by using a vacuum above the oil, but chemical changes caused by oxidization and leading to subsequent discoloring are thereby

eliminated. Vacuum kettles should be fitted with efficient stirring gear and preferably an air-lock in the cover, suitable for charging subsequent small batches of earth, if such are considered necessary.

There has been a certain amount of controversy as to whether the bleaching earth should be added in a single batch or small portions. In my opinion (held also by Odeen, Slosson and others), it is desirable to add the total amount of bleaching earth in one batch, although arrangements should certainly be made whereby more than the estimated quantity of earth may be added if necessary.

Activated earths are prepared by treating the raw ground clay or earth with a mineral acid. Richardson (*Soaps, Perfumes & Cosmetics*, February, 1929) quotes Parson as saying that many fullers earths are acid to litmus and that alkaline fullers earths bleach badly, concluding that the vegetable coloring matters present in the oil are basic and therefore better absorbed by an acid medium rather than an alkaline one. This seems to be the underlying reason for the preference nowadays shown for specially "activated" earths, or earths used with sulfuric acid, in place of just the plain dried earths, as employed hitherto. Thus U. S. patents 1,455,995 and 1,492,184 claim that the traces of mineral acid and the iron and aluminium salts formed by drying the earth in the presence of mineral acid definitely enhance the bleaching properties of the earth. Eckart (*Seif. Ztg.* 1925, 753) has further shown that the addition of a small quantity of acid does in fact increase the bleaching effect by as much as 10 per cent when the earth is air-dried, but if the earth is used in the complete absence of moisture, no better bleaching effect is obtained than that given by the crude acid-free earth. This may explain the extremely variable degree of success experienced by different soapmakers in the utilization of acidified Fuller's earth.

WHILE there is thus nothing particularly complicated in the treatment of palm and other oils with Fuller's earth and sulfuric acid, the details of this process probably show considerable variation as between one soapworks and another. I shall therefore just briefly outline the salient features of the process. In the first place, the acid appears to be used in much the same fashion as a maker of "activated" earths would use it, namely in order to acidify the earth and thus enhance its bleaching properties. In other words, it is a composite process and not merely a sulfuric acid treatment followed by bleaching with Fuller's earth. For palm oils, from 5 to 12 per cent of earth may be employed, but usually considerably less for tallows and palm kernel oils. Small-scale tests in the laboratory are essential, in order to determine the quantity of earth necessary to obtain the optimum bleaching effect. The process is carried out in a vacuum kettle at a temperature of between 110° and 140° C., sufficient acid being added to neutralize the earth and throw it slightly over to the acid side. A preliminary treatment of the oil with dilute sulfuric acid (as widely practised in Germany) is an advantage, but no notable excess of acid should be present during the combined treatment with earth and acid. Eckart is also quite correct in stating that water should be present in order to enhance the bleaching effect; about 0.2 to 0.3 per cent is normally sufficient. Excessive use of acid will, of course, unduly affect the acid number of the oil, and is to be carefully guarded against.

SOAP LABOR RECORD

What has the record of the soap and sanitary products industry been in observance of the federal wage and hour laws? Industry performance is summarized in an article prepared for our April issue by officials of the Wage and Hour Division of the U. S. Department of Labor. We can give you an advance tip now that the record, incidentally, has been surprisingly good.

The essentials of this process are thorough stirring, correct concentration of sulfuric acid and correct temperature, the use of an earth of low basicity, vacuum above the oil, and (not less important) the selection of a good soft oil for treatment. The bleached oil is subsequently pumped through a large filter press, large enough to retain all the cake without any need for stripping and cleaning the press halfway through the batch. Filtration should be carried out immediately after bleaching. Filter press cloths are apt to be rotted away quickly, both with the "s.a.f.e." process and that which utilizes activated clays; good English woolen cloth proves most satisfactory in practise, though initially more expensive. Rotary pumps are rapidly abraded by the fine earths used in oil bleaching, and are for this purpose inferior to piston pumps. The bleached oil should be stored in wooden vats. Immediately the oil has passed through, the cake is steamed out and a further yield of good bleached oil obtained. The residual oil and water left behind in the cake are usually not worth bothering about, recovery of oil being in most cases an uneconomical proposition. As Kemp suggests, however, the cake may if desired be boiled up with caustic and the resulting soap grained and settled, and ultimately used in low-grade soap or soap powder.

Webb has estimated the loss of oil, in a straight earth bleach, as between 1 and 2 per cent. In a properly conducted process, the figure should be nearer 1 than 2, in which case it can scarcely be said to be uneconomical. Treatment of the filter cake with solvents, superheated steam, etc., has been advocated, and even patents have been taken out to protect such treatments, but all of these methods are apt to prove too costly in practice.

Activated carbons are not, so far as I am aware, used alone in the United Kingdom for the bleaching

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AUTO CLEANING...

A STUDY OF PRODUCTS AND METHODS BEING USED TODAY BY CAR LAUNDRIES, TRUCK AND BUS FLEET OPERATORS FOR WASHING AND CLEANING

As a market for cleaning preparations, the automobile and truck field continues to grow in size, each year bringing with it a greater number of automobiles on the road and a greater variety of competing cleaning materials. There are slightly more than thirty-two million automobiles, trucks and buses in use in the United States at the present time, according to latest registration figures. As each of these vehicles is periodically washed, cleaned and polished, this represents a sizeable market for the manufacturer of cleaning products. Study of the field, however, has shown that it could be potentially a more important market than it is today if the widespread distrust of cleaning products in general, so prevalent among garage workers, could be overcome. The average car-washer, or buyer for service station or auto laundry or commercial garage views with suspicion every new product which, for all he knows, may damage the finish or produce streaks. Refusing to take risks, he plays safe in most cases by using nothing but clear water for his washing jobs. And therein lies the main obstacle to the greater sale of automobile cleaning products today.

The operations involved in cleaning automobiles and automotive equipment fall into four general classes: ordinary routine washing of the car body; cleaning of the body surfaces preparatory to waxing; cleaning of running gear; and degreasing of motor and chassis.

For the first of these operations, car washing, soaps are definitely in disrepute with the vast majority of car-washers, fleet owners, service station managers and auto laundry operators. These people all have their own individual ideas on the proper way to go about washing a car, but they are almost unanimously of the firm conviction that soaps should never be used. And soaps of all kinds are included in their blanket condemnations, — soft soaps and hard soaps alike. Soaps, they say, no matter how carefully they are applied and no matter how quickly they are rinsed off the car, are unsatisfactory for washing. From their own experience, car-washers report, soaps produce streaks in the car finish and destroy shine and lustre, giving a dull appearance to the car on which they are used, contrary claims from the manufacturer notwithstanding. These deleterious effects of soaps they report to be most pronounced on the finishes of dark-colored cars, black, dark blue, maroon, etc. Less trouble is encountered, they say, on light-colored finishes such as cream, grey, light green and yellow. Thus, soaps are almost never used for washing the bodies of dark-colored cars but are used to some extent on light-colored automobiles where, because of the color, streaks resulting from improper washing do not show up as prominently.

This current prejudiced attitude toward soaps for car washing is possibly due to the fact that many of the soaps put on the market as "auto soaps" during the past several decades were made cheaper and ever cheaper to meet the low-cost demands of garages and became eventually ill-adapted to the purpose. Having had at least one sad experience with these inferior products, possibly some years ago, garage operators are loath to take the chance of ever using soap again except in places where there can be no risk of damage to the car finish. Nevertheless, it is claimed by many manufacturers that carefully formulated soaps are not injurious if used properly and are not allowed to dry on the car but are rinsed off quickly. The crux of the whole matter seems to be that soaps which are priced right from the buyer's point of view are bad for the finish, while those which would do a satisfactory job are too expensive. Potash soaps in general fall into this last classification. Being soft in texture, they are more easily wasted by the car-washer who is commonly of indifferent ability. Vegetable oil soaps with a potash base were once, it will be remembered, one of the most widely used products for washing cars. At the present time they are used to the extent of only about 15 per cent of their former volume in the auto field.

In contrast to the greatly diminished use of soaps in this field is the increasing popularity of chem-

ical cleaners in liquid and powder forms which were introduced several years ago and have been steadily gaining favor as auto washes. Among the liquid auto washes, which retail at prices ranging up to $3 or $4 a gallon, the most widely used are water solutions of wetting agents such as sulfated fatty alcohols or any one of a dozen other compounds of varying merit. These products also have detergent properties. The main features claimed for products of this type are that they are neutral and harmless to all finishes, will not produce streaks, can be rinsed easily and quickly in either hot or cold water, leave no film, and are economical. One of the largest sellers in the field is advertised as "the wipeless wash"; after it has been used, the truck or bus may be allowed to dry without wiping down with towel or chamois. This particular liquid wash is used in the ratio of one ounce to a pail of water or one pint to 40 gallons of water. Thus, although it sells at $3 a gallon, one gallon can be used for more than 100 washes bringing the cost for each wash down to less than 3 cents. Judging from the comments of those who have used the product, it does everything claimed for it and, in the words of one enthusiastic user, "It's the best thing I've ever tried and, boy, I've tried everything!"—which sounds almost too much like an advertising testimonial to be true.

As the cost of labor is one of the most important considerations from the point of view of the professional car washing establishment, if a product can save time it certainly makes up for any slight increase in the cost of the cleaner. This is perhaps one additional reason why the chemical auto washes have become more and more popular. A saving in time and labor results from the fact that it is not necessary to wipe the car after washing.

Much the same advantages are claimed for the chemical auto washes which are sold in powder form and also have detergent and wetting properties in water solution. Like the liquid washes, those in powder form are made from a wide variety of constituents and are used in very dilute solutions. Customary proportions are a tablespoonful or a handful to a pail of water. They are applied to the car body with a clean turkish towel or a sponge or can be applied with a spray-gun.

Although products designed for washing automobiles are used fairly widely throughout the field, it must not be supposed that the majority of car washers make use of them. Such is not the case. Actually it is far more common to find car washers using no detergent or cleaning material at all for most of their wash jobs. Since the price of a car wash is pretty well standardized, the car washer collects the same pay

whether he uses cleaning materials or nothing but water and elbow grease. This being the case, wherever he can get away with it, he hoses off the car with a stream of clear water, sponges off the surface dirt, wipes it off with a clean towel and calls it a day.

Even in large company service garages where fleets of buses or trucks are constantly being washed, and where speed and efficiency should be at their peak, only comparatively small quantities of washing materials are used. In the service garage of one large cross country bus company, the standard practice in washing is to hose off the bus with a stream of water under pressure and then scrub it down with a long-handled brush, adding a small quantity of a well-known dish-washing compound to the wash water when the bus is unusually dirty, and then to follow with a final hosing and allow the body to dry by evaporation. Other fleet owners are of the opinion that all cleaning materials are injurious to painted truck bodies and consequently do not permit their employees to use anything on the body except water.

TURNING from ordinary washing of automobiles to the more specialized question of cleaning the surface as a preparation for waxing, or of cleaning and polishing in one operation, we again find a variety of products on the market,—each making claims of superiority over all other auto polishes and cleaners. Of the several types, one of the most widely used is a paste-like rubbing compound containing a soft abrasive such as infusorial earth or pumice.

The abrasive content is not apparent when a pinch of the paste is rubbed between the fingers. Compounds of this type are applied either manually or with a mechanical polishing wheel faced with lamb's wool or some other soft material. While they are very effective for removing grime and road film, they are also liable to remove some of the surface itself unless the job is done by an experienced worker. How much of the finish is taken off depends, of course, on the fineness and softness of the abrasive and also on the amount of pressure applied. There seems to be no doubt, however, that continued use of these abrasive compounds may damage the finish. They seem to be the most popular, nevertheless, in commercial auto cleaning establishments for cleaning an automobile before waxing.

Another type of polish or cleaner is the oil emulsion type. These cleaners are comparatively simple to use and put a high lustre on a car in a short time with a minimum of labor. Immediately after using an oil emulsion cleaner, the car "looks like a million dollars" but, as the shine is chiefly in the form of a thin film of oil, it lasts but a short time, is greasy and apt to pick up dust. The shortcomings of these products are recognized in auto laundries and the like, and they are generally avoided by these establishments. Because a quick demonstration gives such apparently good results, these products are sometimes sold by itinerant salesmen to individual car owners who are impressed with the ease with which they are used.

Liquid or paste cleaners or polishes containing wax form another type of product classed among the auto cleaners. These are supposed to clean, polish and wax, all in one operation. It would seem that attempting to apply a wax to the auto finish without first removing all dirt and grime would defeat the original intention of obtaining a good wax finish, as the dirt would be sealed right into the surface by the wax and not be removed. Use of this type of product, obviously, would not result in as good a job as would the use of two separate products, one for cleaning and one for waxing. These three-in-one products are apparently supposed to save time, but they are undoubtedly not as efficacious as the longer procedure of first cleaning and then waxing. In addition, they are quite expensive, selling in the neighborhood of $2 to $3.50 a gallon.

Apart from any other considerations, products containing carnauba wax must be applied by an experienced operator in order to obtain a good looking job,—and even so, three or four hours of rubbing and polishing are required. As not many car owners are experts or have the time to do their own waxing, most of this work is done by professionals. And most professionals know enough from experience to use a cleaner before waxing instead of attempting to perform both operations at the same time.

SOAPS, although they are not used on the body of the car, are used widely for washing the running gear of automobiles and trucks. Other types of cleaners such as liquid auto washes are also used for cleaning running gear but auto soap in large hard cakes seems to be preferred by the largest number of car-washers. In general practice, the bar of soap is tossed into a bucket of warm water, agitated to make suds, and the suds are applied with a brush or cloth to the running boards, wheels and tires.

Products for cleaning white wall tires are also used widely in this field. Many of them are packaged expressly for the purpose of cleaning white tire walls, while others commonly used are products originally intended as abrasive hand cleaners or products for scouring pots and pans such as soap-impregnated steel wool. Most of them, however, are soap products. Some of them contain a bleaching agent and a certain percentage of alkali as well as soap. Others, according to the recommendation of the manufacturer, can be used with alcohol to increase the dirt removing action. The alcohol must be completely rinsed off, though, or it will tend to attack the white rubber paint.

THE preparations mentioned in the foregoing discussion of cleaning and washing compounds for automobile bodies and running gears, because the surfaces they are designed to clean are susceptible to attack, are necessarily comparatively mild in action. In

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GERANIUM OIL—*its composition*

By Dr. Francis D. Dodge

Dodge & Olcott Co.

SOME years ago, the writer had occasion to examine a sediment which had been deposited from a parcel of Reunion geranium oil. The oil had been shipped in a zinc-lined container, as is the custom, and from one of these, holding about 400 pounds of oil, about one-half pound of insoluble matter was collected. The sediment was distinctly crystalline, slightly soluble in alcohol, more soluble in water, and the aqueous solution was found to contain, besides traces of iron and copper, practically only the ions of zinc and formic acid, identified by the usual tests. The precipitate was evidently zinc formate, and on concentrating the solution, the salt was deposited in the characteristic transparent, apparently mono-clinic, crystals.

The formation of this precipitate appeared to be due to the presence of formic acid in the oil of geranium, a fact which had previously escaped observation, but which was easily confirmed by a few tests.

Like most of the essential oils, the composition of oil of geranium is complex: in fact, the number of constituents would appear to be limited only by the amount of time spent on the examination. Geraniol and citronellol are present to the extent of 75-80 per cent of the oil; partly combined with fatty acids, of which acetic, butyric and valerianic acids seem to have been identified. Other alcohols have been found in small amount, linalool, terpineol, phenylethyl alcohol, menthol, and an amyl alcohol. Also menthone, citral, pinene, phellandrene, and methyl sulfide. Tiglic acid has generally been supposed to be the principal acid present, but, in the opinion of the writer, the amount of this acid in a normal oil seems to be overestimated.

Field of Geranium on African Plantation.

Formic acid has been reported in a number of oils, for example, in turpentine, thuja, California laurel, hedeoma, arnica, valerian, and cardamon oils. Analytical data are, however, generally lacking, and the identification of the acid is often uncertain. It appeared of interest to examine a variety of oils for possible content of formic acid, and for this purpose the following method based on the well-known reaction with mercuric chloride, was found satisfactory.

Ten grams of oil are saponified in the usual manner, by heating one hour with an excess of 0.5 N alcoholic potassium hydroxide. After titration, the solution is diluted with water to about 50 cc, the oil separated, the mixture made slightly alkaline, and evaporated to about 10 cc. It is now acidified with strong hydrochloric acid, sufficient to throw out the insoluble acids, and after settling is filtered clear through a wet paper. The filtrate is neutralized by potassium hydroxide, and 15 cc. of a 20 per cent solution of mercuric acetate added, and the mixture heated on water bath until no further separation of mercurous chloride takes place. The precipitate is collected on small counterpoised filters, washed with water, dried and weighed. According to the reaction:

$$2HgCl_2 + HCHO_2 = 2HgCl + 2HCl + CO_2$$

1 g. HgCl = 0.0976 Formic acid = 0.3855 Geraniol formate.

If mercuric chloride is used, the reaction becomes slow and incomplete, owing to the accumulation of

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Germicidal Activity Of Soaps

A study of the comparative germicidal value of rosin soaps and soaps of individual fatty acids

Part II

By L. S. Stuart and W. D. Pohle

SIMILAR studies were made on most of the soaps tested against *Staphylococcus aureus* using *Escherichia coli* as the test organism. Counts made from standard loop suspensions of 24-hour cultures of this organism, in 15 ml. of physiological saline, indicated that the initial inoculum of the test solution was between 2500 and 3500 per standard loop subsample. This was less than was found with *Staphylococcus aureus*. Typical plate counts for tests with this organism are given in Table 7.

The results with *Escherichia coli* did not show quite such a consistent picture of greater germicidal activity for the rosin soaps when compared with fatty acid soaps at concentrations of 1.0 and 0.5 per cent. With this test organism equivalent concentrations of coconut oil soap appear to have a germicidal activity equal or nearly equal to rosin soap made from normal gum rosin. The soaps of lauric and myristic acids are more effective than the other fatty acid soaps tested. The tests with pyroabietic acid indicate an effectiveness about equivalent to that of lauric and myristic acid.

The results obtained with purified rosin acids were somewhat erratic when this test organism was employed. The order of activity of the rosin acids appears to be the reverse of that found with *Staphylococcus aureus*, but the differences observed were not great or consistent at the concentration employed. Accurate duplication of counts with this organism was more difficult than with *Staphylococcus aureus*, and therefore small differences are probably of little significance.

The apparent reversal of the order of activity of the pure rosin acid soaps with *Escherichia coli* as compared to the results with *Staphylococcus aureus* as the test organism indicates that the soaps of the various rosin acids may themselves have some specificities for different organisms similar to those observed and reported for the various fatty acid soaps by Walker (17, 18, 19) and Eggerth (3).

To establish definitely the similarity of the resistance of the strains of *Escherichia coli* used in this study with that of *Eberthella typhi*, some direct comparisons were made between the resistance of 24-hour cultures of the two organisms to selected rosin and fatty acid soaps and phenol. The results of these tests are presented in Table 8.

From the counts in Table 8 it would appear that the resistance of the culture of *Escherichia coli* used to the germicidal action of the

Table 7.—Germicidal Activity at 30° C. of Rosin and Fatty Acid Soap Solutions at pH 10.2 against *Escherichia coli*.

Plate Count[1]

Soap Solution	Concentration of Solutions: 1.0 Per Cent — Exposure time in minutes 1	2	5	10	20	0.5 Per Cent — Exposure time in minutes 1	2	5	10	20	0.25 Per Cent — Exposure time in minutes 1	2	5	10	20
Made from															
Slash pine Rosin	576	5	2	0	0	616	512	124	56	..	1792	1088	960	640	..
Pyroabietic Acid	[2]	0	0	0	0	..	12	11	6	..	2048	512	288	96	..
Dehydroabietic Acid	3	0	0	0	0	..	384	384	304	..	1664	704	448	320	..
Abietic Acid	144	0	0	0	0	304	148	53	24	..	1328	704	448	320	..
Dihydroabietic Acid	88	7	0	0	0	..	400	104	48	..	..	960	960	852	..
Tetrahydroabietic Acid	640	512	10	0	0	1792	1216	960	640	448	1536	1280	1216	1152	1152
Caprylic Acid	960	640	57	3	0	1536	1472	832	576	384	2438	2438	2438	2240	2240
Lauric Acid	6	0	0	0	0	64	53	89	16	9	832	640	512	512	512
Myristic Acid	32	20	4	0	0	374	108	74	26	17	460	640	448	148	98
Oleic Acid	..	52	54	23	..	1280	832	576	448	384	1984	1728	1664	704	704
Stearic Acid	..	..	..	..	..	..	..	..	..	..	2816	2816	2816	2816	2304
Palm Oil Acids	2240	2240	2240	2240	2240	2240	1920	1920	1920	1920	2437	2432	2432	2432	2432
Coconut Oil Acids	18	5	0	0	0	704	512	256	256	256	768	512	204	128	96
PHENOL[3]	0	0	0	0	0	2304	2112	896	96	32	3585	3392	3392	3200	3520

[1] Control plate count approximately 3,000.
[2] Not run at the concentration or exposure interval indicated by..
[3] Phenol tested in water solution at pH 6.2 made up and standardized according to Ruehle and Brewer (14).

Table 8.—Germicidal Activity at 30° C. of Rosin and Fatty Acid Soap Solutions at pH 10.2 against *Escherichia coli* and *Eberthella typhi*.

Soap solution	Concentration of solution	Plate count: *Escherichia coli* — Exposure time in minutes 2	5	10	*Eberthella typhi* — Exposure time in minutes 2	5	10
Made from	*Per cent*						
Slash pine Rosin	2	0	0	0	0	0	0
Coconut Oil	2	0	0	0	0	0	0
Slash Rosin	1	5	2	0	2	0	0
Coconut Oil	1	5	0	0	3	2	0
Oleic Acid	1	576	192	6	52	54	23
Pyroabietic Acid	1	0	0	0	0	0	0
Palm Oil	1	2240	2240	2240	888	472	388
NaCl[1]	0.85	2432	2112	2112	2560	2560	2560
Phenol[2]	1	0	0	0	0	0	0
Phenol[2]	0.5	2112	896	96	1680	384	320

[1] Physiological saline, pH 7.0.
[2] Phenol tested in water solution at pH 6.2. Standardized according to Ruehle and Brewer (14).

materials studied was essentially the same as that of *Eberthella typhi*. Both organisms were completely killed by 2 per cent coconut oil soap and 2 per cent rosin soap. The resistance of both organisms to 1.0 per cent solutions of the soaps of rosin, coconut oil, oleic acid, pyroabietic acid, and palm oil was about the same. Both organisms were completely killed by 1.0 per cent phenol, yet both were not killed by 0.5 per cent phenol at pH 6.2.

The results in Tables 7 and 8 on the whole indicate that soap made with normal gum rosin has about the same order of activity against *Escherichia coli* and *Eberthella typhi* as coconut oil soap. The sodium soaps of pyroabietic acid, lauric acid, and myristic acid are slightly more effective than either the soap of gum rosin or coconut oil.

In the manufacture of soaps containing rosin soap the ratio of fatty acid to rosin may be as much as 2 to 1. Since rosin is always used with fatty acids in household soaps, the germicidal activity of fatty acid-rosin soaps, compared to fatty acid and rosin soaps individually, is of interest. Tables 9 and 10 give the results from tests made upon several mixtures of fatty acids and rosin in the form of soap against *Staphylococcus aureus* and *Escherichia coli*. These tests indicate that a soap solution containing fatty acids and rosin in the ratio of 3 to 1 is more active against *Staphylococcus aureus* than one containing fatty acids alone. At concentrations of 0.5 and 0.25 per cent the influence of the rosin (slash pine rosin) on the germicidal activity of the soap solution is less, diminishing as the concentration of the soap acids is reduced.

With *Escherichia coli*, the specificity of coconut oil soap observed in the previous tests again appears. The addition of coconut oil and slash pine rosin soaps to palm oil soap increases its germicidal activity to about the same extent. However, the addition of slash pine rosin soap to coconut oil soap definitely increased the germicidal activity of the coconut oil soap. There is no apparent explanation for this increase in the activity of coconut oil soap with the addition of rosin soap when *Escherichia coli* is used as the test organism. The observation has been verified and may be due to the effect of rosin soap on certain of the physical properties of the solutions.

Some difficulty was encountered in these studies in obtaining checks with the same soap solutions which contained palm oil, palmitic, or stearic acids in concentrations that tended to gel on standing at room temperature. The rate of setting of the gel, state of gel, and age of the gel all seemed to exert some influence on germicidal activity. Tests made on semi-rigid gels brought up to 30° C. in a water bath usually

Table 9.—Germicidal Activity at 30° C. of Fatty Acid and Fatty Acid-Rosin Soap Solutions at pH 10.2 against *Staphylococcus aureus*.

Soap Solution	Ratio of Components by Weight	Plate Count[1] — Concentration of Solutions: 1.0 Per Cent — Exposure time in minutes 1	2	5	10	20	0.5 Per Cent — Exposure time in minutes 1	2	5	10	20	0.25 Per Cent — Exposure time in minutes 1	2	5	10	20
Made from																
Slash pine Rosin[2]		1	0	0	0	0	5	0	0	0	0	238	118	51	32	15
Coconut Oil Acids		23	8	8	6	2	104	76	39	23	10	248	116	88	57	12
Palm Oil Acids		2416	312	288	252	252	1152	1152	704	640	512	1408	1408	1152	768	704
Palm Oil Acids Coconut Oil Acids		576	320	111	97	36	640	256	127	124	54	704	502	438	134	56
Palm Oil Acids—Slash pine Rosin	3-1	176	9	6	1	1	704	92	48	42	..	320	244	132	96	26
Coconut Oil Acids—Slash pine Rosin	3-1	20	15	0	0	0	11	3	3	0	0	..	92	20	20	10
Palm Oil Acids—Coconut Oil Acids—Slash pine Rosin	2-1-1	47	24	12	11	7	52	48	23	12	13	211	136	110	66	24

[1] Control plate count 3 to 4 thousand.
[2] Slash pine rosins used in all combinations.

Table 10.—Germicidal Activity at 30° C. of Fatty Acid and Fatty Acid-Rosin Soap Solutions at pH 10.2 against *Escherichia coli.*

Plate Count[1]

Soap Solution	Ratio of Components by Weight	Concentration of Solutions: 1.0 Per Cent — Exposure time in minutes 1	2	5	10	20	0.5 Per Cent — Exposure time in minutes 1	2	5	10	20	0.25 Per Cent — Exposure time in minutes 1	2	5	10	20
Made from																
Slash pine Rosin[2]		576	5	2	0	0	616	512	124	56	..	1792	1088	960	640	..
Coconut oil Acids.....		18	5	0	0	0	704	515	256	256	256	768	512	204	128	96
Palm Oil Acids.....		2240	2240	2240	2240	2240	2240	1920	1920	1920	1920	2432	2432	2432	2432	2432
Palm Oil Acids— Coconut Oil Acids...	3-1	1984	1600	512	384	176	2304	1920	1600	1408	896	2660	2660	2660	2660	2304
Palm Oil Acids— Slash pine Rosin....	3-1	2368	1984	1216	264	58	2304	2304	1984	1920	832	1546	1280	1088	704	640
Coconut Oil Acids— Slash pine Rosin....	3-1	7	0	0	0	0	308	138	24	12	8	448	370	264	42	24
Palm Oil Acids— Coconut Oil Acids— Slash pine Rosin....	2-1-1	1600	768	82	8	7	704	448	104	48	41	1024	632	768	586	320

[1] Control plate count approximately 3,000.
[2] Slash pine rosins used in all combinations.

indicated less germicidal activity than when the gels were melted at 55° C. and cooled to 30° C. and then tested. Activity appeared to decrease with time with test solutions that tend to set to gels at 30° C. In these studies all such soap solutions were heated to 55° C. and then cooled to 30° C. and tested as soon thereafter as they came to temperature. In this way the effect of the physical state of the solution has been minimized.

The influence of temperature on the germicidal activity of soap solutions is of interest when considering possible results in connection with a particular use. The data from a few tests on the effect of temperature on the germicidal activity of selected soaps against *Staphylococcus aureus* are given in Table 11.

The counts in Table 11 emphasize the desirability of using 35° C. or less and accurately controlling the temperature for comparative bactericidal tests on soap solutions. When temperatures higher than 30° C. are used the germicidal activities of the soaps appear to approach each other, and the differences between the various soaps are more difficult or impossible to determine with certainty. At temperatures of 40° C. or higher, all of the soap solutions become more germicidal in the concentrations tested.

Some of the data presented in tables 2, 4, 5, 6, 7, 9, 10, and 11

Table 11.—Effect of Temperature on Germicidal Activity of Soap Solutions at pH 10.2 against *Staphylococcus aureus.*

Plate Count[1] *after exposing to soap solution for 5 min. at*[2]

Soap solutions	Concentration of solution	Ratio of components by weight	25°	30°	35°	40°	45°
Made from	*Per Cent*						
Palm oil acids— coconut oil acids.....	1.0	3-1	184	76	2	1	0
Palm oil acids— coconut oil acids.....	0.5	3-1	188	92	16	2	0
Palm oil acids— coconut oil acids.....	0.25	3-1	284	94	34	3	2
Palm oil acids.....	1.0	...	288	146	33	4	0
Palm oil acids— coconut oil acids.....	1.0	3-1	184	76	2	1	0
Palm oil acids— coconut oil acids— rosin	1.0	2-1-1	117	26	2	1	0
Sodium hydroxide — pH 10.0			...	1664	1536	1152	312

[1] Control plate count 3 to 4 thousand.
[2] Degrees C.

have been graphically analyzed. In Plates 1, 2, and 3 graphs are presented. In these figures the log of the number of surviving bacteria is plotted against the factors of time, temperature, pH and concentration. The rate of the death of bacterial cells as influenced by germicides is usually considered to be a logarithmic function of the initial number of organisms present.

In Plate 1 survival curves of *Staphylococcus aureus* with time for 0.5 per cent solutions of palm oil, linseed oil, coconut oil and slash rosin soaps are plotted. The superior germicidal activity of the slash rosin soap over these natural oil soaps is obvious. In plate 1, figure 2, the survival curves of *Staphylococcus aureus* with time for 0.25 per cent solutions of the purified fatty acid soaps may be compared with that of a purified abietic acid soap. Here the superiority of the rosin acid soap over fatty acid soaps is plainly indicated. In plate 1, figure 3, the survival curves of *Staphylococcus aureus* with time for 0.25 per cent solutions of the soaps made from normal gum rosin, oxidized gum rosin and pyroabietic acid plainly indicates the differences in germicidal activity of these products as previously mentioned in the text. In plate 1, figure 4, the differences are shown in the relative germicidal activities of rosin acid soaps of different structure at a concentration of 0.1 per cent as tested against *Staphylococcus aureus.*

In plate 2, figures 1 and 2 show the survival curves for *Staphylococcus aureus* as influenced by in-

creasing the pH of sodium hydroxide solutions and 0.25 per cent solutions of linseed oil and slash rosin soaps from 10 to 11. Here the increase in the germicidal activity of soap solutions with the higher pH values is strikingly illustrated. In plate 2. figures 3 and 4 show the effect of temperature and pH on the germicidal activity of aqueous solutions of sodium hydroxide. These effects may be more clearly visualized from graphs than from the prior tabular presentation and the text discussion.

Plate 3, figure 1 shows the relative germicidal activity of the soaps of slash rosin, oxidized rosin and pyroabietic acid at concentrations ranging from 0.1 ot 2.0 per cent. The data for tests made at 0.1 and 2.0 per cent were not included in the tables in the text. This figure shows that the relative effectiveness of these three soaps against *Staphylococcus aureus* as brought out for one concentration in plate 1, figure 3 holds good over the range of concentrations tested at a given time interval of exposure.

In plate 3, figures 2 and 3 some of the survival curves with time for the soap mixtures studied against both *Escherichia coli* in concentrations of 1 per cent and *Staphylococcus aureus*, in concentrations of 0.5 per cent, respectively, are given. Here the increase in the germicidal activity of the fatty acid soaps by the addition of rosin soap is plainly shown by the relative position of the curves.

Plate 3 figure 4 shows the greater killing action of rosin soap compared to coconut oil soap at all concentrations when *Staphylococcus aureus* was the test organism. The superimposition of the death curves for *Escherichia coli* with slash rosin and coconut oil soap with increasing concentrations at a 2-minute exposure time brings out the equivalent activity of these two soaps against this organism.

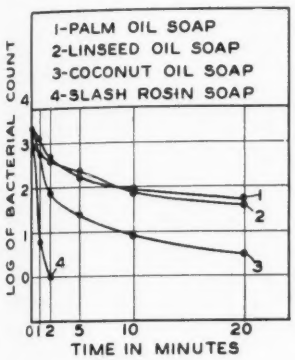


FIGURE 1

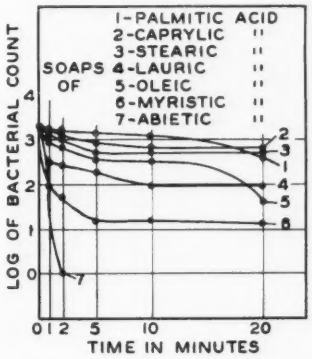


FIGURE 2

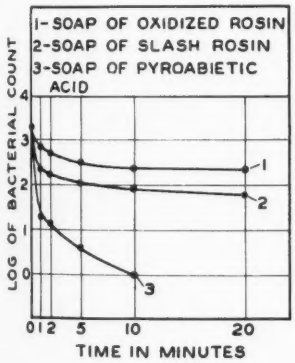


FIGURE 3

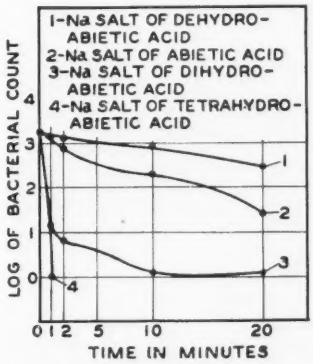

1-Na SALT OF DEHYDRO-ABIETIC ACID
2-Na SALT OF ABIETIC ACID
3-Na SALT OF DIHYDRO-ABIETIC ACID
4-Na SALT OF TETRAHYDRO-ABIETIC ACID
LOG OF BACTERIAL COUNT
TIME IN MINUTES
0 1 2 5 10 20

FIGURE 4

PLATE 1

Fig. 1—Relative germicidal activities of some natural oil soaps and rosin soap in concentrations of 0.5 per cent against **Staphylococcus aureus,** at 30° C.

Fig. 2—Relative germicidal activities of some pure fatty acid soaps and sodium abietate in concentrations of 0.25 per cent against **Staphylococcus aureus,** at 30° C.

Fig. 3—Relative germicidal activities of soaps made from slash rosin, oxidized rosin, and pyroabietic acid in concentrations of 0.25 per cent against **Staphylococcus aureus,** at 30° C.

Fig. 4—Relative germicidal activities of the sodium salts of certain resinic acids in concentrations of 0.1 per cent against **Staphylococcus aureus,** at 30° C.

Discussion

The value of a zero count in the method employed has been discussed by Halvorson and Zeigler (7). In these studies zero counts were rarely ever followed by any counts other than zero in any series of exposure intervals. In fact, the infrequent appearance of so-called "skips" was a noteworthy feature of this investigation. Thus, where a zero count is recorded, followed by a continuous succession of zero counts at the longer intervals, it appears safe to interpret the results as complete killing.

Solutions of soaps made with rosin alone in a concentration of 2 per cent will kill the three organisms studied. The combination of soap properties, germicidal action, and the fact that rosin soaps do not become rancid with time may make rosin soap a useful germicide and cleanser for many purposes.

That the inclusion of rosin or rosin acid soaps in commercial soaps would tend to increase their germicidal activity, has been plainly indicated.

Predicting the results a soap

(*Turn to Page* 73)

New Products and

McCormick & Co., Baltimore, have just redesigned their line of containers for insect spray, derris powder and insect powder. The small containers for derris powder are an innovation, this product having been available until recently only in bulk.

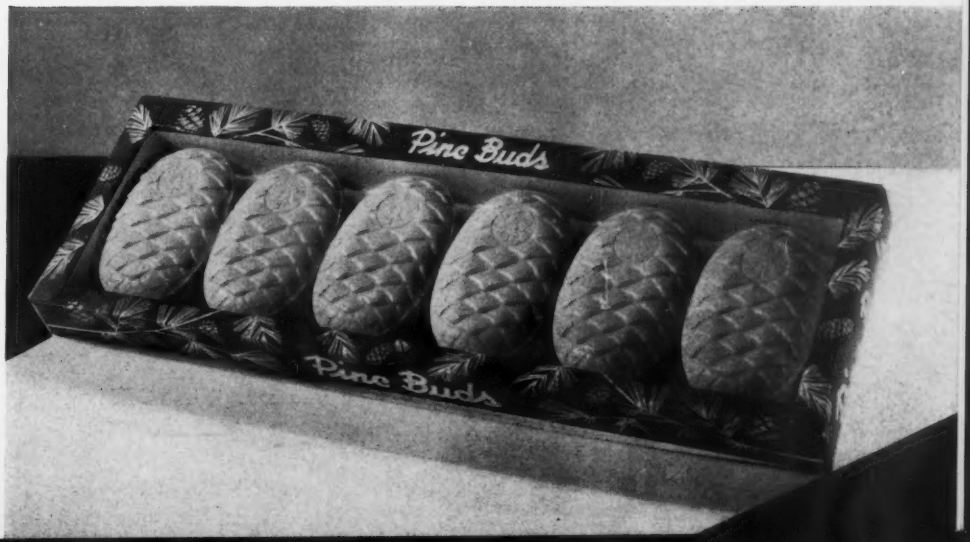
A newcomer in the toiletries field, John Bradshaw Co., Boston, received top award in the miscellaneous containers division of the 1940 All-America Package Competition for its series of wooden containers reproducing old New England characters and old-time household accessories.

J. B. Williams Co., Glastonbury, Conn., has gone to molded plastics for its new shave stick holder, awarded an honorable mention in the plastic container group in the recent 10th annual All-America Packaging Competition.

Packages

Two new products of M. & H. Laboratories, Chicago, are "Vogue" self-polishing floor wax and "Troleum B" motor tune-up and break-in oil. Both are marketed in lithographed metal containers supplied by Continental Can Co., N. Y.

O'Cedar "Moth-Away Cone" of O'Cedar Corp., Chicago, received an award for best use of materials in the hardware and household products division of the 8th Annual "5 & 10" Packaging Contest. Bottle was made by Fairmount Glass and closure by American Can. Designed by W. C. Ritchie Co.



Window packages of six green "Pine Buds" manufactured by Hewitt Soap Co., Dayton, were recently introduced through drug store outlets. Suggestive of pine cones in shape, the cakes are perfumed with a piney odor.

Raw Materials

for the soap and allied industries

RED OIL

CAUSTIC SODA

STEARIC ACID

CAUSTIC POTASH

TALLOW

DRUMS
TANK CARS
TANK WAGONS

COCOANUT OIL

Animal Oils, Fats, Chemicals Vegetable Oils,

Every raw material necessary for the manufacture of soap and allied products is carried in stock and is available at the right price for immediate delivery to your door.

PALMITIC ACID
90-95% Pure White, High Melting Point

GLISYN
Inquiries solicited on this low price glycerine replacement.

ALCOHOL
AMMONIA
BLEACHING POWDER
BORAX
BICARBONATE OF SODA
CARBON TETRACHLORIDE
CALCIUM CHLORIDE
CAUSTIC SODA
CAUSTIC POTASH
DYES
DISODIUM PHOSPHATE
GLAUBER'S SALTS
GLYCERINE
METASILICATE
OXALIC ACID
POTASSIUM CARBONATE
SAL AMMONIAC
SALT
SAL SODA
SILICATE OF SODA
SODA ASH
TRISODIUM PHOSPHATE

CASTOR OIL
COCOANUT OIL
CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID - RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
RAPESEED OIL
ROSIN
SALAD OIL
SOYA BEAN OIL
SESAME OIL
TEASEED OIL
WHITE OLEINE
FATTY ACID
STEARINE
STEARIC ACID
GREASE
TALLOW

Telephone: MOrsemere 6-4870. Direct New York Tel.: CHickering 4-7533.
Members New York Produce Exchange.

EASTERN INDUSTRIES iEi INC.

RIDGEFIELD· N. J.

NEWS....

Packer's to Move N. Y. Office

Packer's Tar Soap, Inc., Mystic, Conn., recently leased space for its New York business office on the fifteenth floor of the Eastern Air Lines Building, Rockefeller Center, for occupancy the latter part of March. For the past fourteen years, this office has been located at 101 West 31st St.

Insto Co. President Dies

Gilbert C. Lee, president of Insto Co., Los Angeles, soap manufacturing firm which he founded fifteen years ago, died recently at the age of sixty years. Mr. Lee was an inventor holding many patents on improvements in the field of machinery.

TGA to Meet June 9-11

The annual meeting of the Toilet Goods Association will be held June 9, 10 and 11, in New York. The hotel will be announced later. LeRoy Root has been named chairman of the convention committee and H. Gregory Thomas chairman of the program committee.

McNutt to Address DCAT

Paul V. McNutt, Federal Security Administrator, will deliver the main address at the 16th annual banquet of the Drug, Chemical and Allied Trades section of the New York Board of Trade which will be held on March 13 at the Hotel Waldorf-Astoria, New York. Mr. McNutt has selected the title "The Drug and Chemical Industry and National Defense" for his address. A former governor of Indiana, United States High Commissioner of the Philippine Islands and president of the Council of State Governors, Mr. McNutt, in addition to his duties as administrator of the Federal Security Agency, has been appointed Defense

PAUL V. MCNUTT

Coordinator during the national defense emergency and has been closely associated with the drug and chemical industries. Advance reservations for the banquet are reported as being higher than ever before and it is anticipated that this year's affair will be the most successful one held by the section.

Complexion Soap Stipulation

An agreement to cease advertising that "Moon Rose Complexion Soap" reconditions or fortifies the skin was recently made by Paul M. Cooter, trading as Cooter Brokerage Co., Chicago, in a stipulation with the Federal Trade Commission. He also agreed to discontinue representing that the soap replaces the oils of the skin, stimulates the oil glands of the skin, causes the skin to breathe, penetrates the pores or has any other effect on the skin other than to cleanse the surface, and that use of the product prevents blemishes, enhances beauty or causes one to look young.

1940 Soap Sales at High Level

Sales of soaps in the United States during 1940 were only slightly lower than sales for the record year of 1939 according to figures just released by the Association of American Soap & Glycerine Producers, Inc., New York. Sales of soap other than liquid reported by manufacturers who make approximately 90 per cent of all soaps made and sold in the United States totaled for 1940, 2,643,166,194 pounds worth $257,820,289. In pounds, this was 4 per cent less than in 1939, and in dollars, 3.5 per cent less than 1939. Sales for the year, however, were higher than in 1938, 1937, 1936, and 1935. Production for the fourth quarter of 1940 exceeded in volume and value any previous fourth quarter in the six years covered by the sales census. Sales of soap other than liquid were reported as 628,469,311 pounds and $58,926,320 for the fourth quarter of 1940. In pounds, this was 3.7 per cent higher than the sales for the fourth quarter of 1939 and in dollars, 1 per cent higher.

Leeds Soap Ltd. Moves

Leeds Soap Limited, formerly located at 201 Weston Road South, Toronto, Canada, has just moved its manufacturing and sales organization to a new building at 27 Newcastle St., Mimico, Toronto 14. The new home of "Leeds Golden Yellow" soap flakes is on a half acre of property and has floor space of approximately 5,000 square feet.

Boston BIMS Hold Party

The BIMS of Boston Club held its annual mid-winter dinner and get-together party on February 20 at the Cocoanut Grove in Boston.

"Sunbrite" Display Contest

Swift & Co., Chicago, have announced their 7th annual dealer display competition for "Sunbrite" cleaner. Prizes totalling $6,846 are offered in two classes for store window or interior displays of the product. Prizes include Buick and Dodge sedans. To stimulate consumer interest, Swift & Co. are simultaneously offering two-piece carving sets for three "Sunbrite" can labels, plus 25 cents.

P. & G. Names J. E. Pruden

James E. Pruden, an executive at the Ivorydale plant of Procter & Gamble, Cincinnati, has been appointed superintendent of operations of the Procter & Gamble Defense Corporation plant at Milan, Tenn. Mr. Pruden, who is mayor of Wyoming, Ohio, a suburb of Cincinnati, expects to leave for Tennessee when the new buildings there are completed. Mr. Pruden has been with P. & G. for 28 years.

Moran Denies FTC Charges

In answer to a complaint of the Federal Trade Commission charging Peggie Moran Co. and Irene Johnston, Inc., Los Angeles, with misleading advertising of "Peggie Moran Savon," an alleged reducing soap, the companies recently stated that any claims concerning the product were made in good faith. The companies deny that they have caused the dissemination of false advertisements and assert that they had at no time made any claims which were not, to their best knowledge, true. Hearings will be held.

Fritzsche Cincinnati Mgr. Dies

James R. Eller, who has been in charge of the Cincinnati office of Fritzsche Brothers, Inc., New York, for the past two years and had been connected with the company for more than 15 years, died suddenly on February 14, at his home in Cincinnati. He was 48 years old. A native of Athens, Ohio, Mr. Eller joined the sales organization of the company in 1925 and worked for the firm's Columbus office for some years until he was placed in charge of the then newly opened Cincinnati branch in 1939. He was a member of the Magnolia Lodge, F. and A. M.

Introduce "White Sail" Soap

"White Sail" Soap Grains were introduced to customers of the Great Atlantic and Pacific Tea stores in Chicago last month. The initial offering was two 24-oz. packages for 25 cents. The product is a private brand, a company executive stated, which has been tried out in eastern markets and is now being given national distribution as rapidly as possible. Symbolizing the name, the carton bears against a bright green background a picture of a sailboat in white.

Drackett Hold-up Fails

Three Negroes were thwarted in an attempted burglary of the Drackett Chemical Company plant at Sharonville, near Cincinnati, on February 5, after they had seized and bound the night watchman, Robert Hall, 22, who had surprised them in the act of ransacking the plant. At the approach of Charles Hauser, night engineer, the men fled.

Deupree on Hospital Board

Richard R. Deupree, president of Procter & Gamble Co., has been elected president of the board of trustees of the Children's Hospital of Cincinnati.

Mathieson Earnings Up

Net income of Mathieson Alkali Works, Niagara Falls, N. Y., for 1940 was recently reported as $1,587,812, or $1.72 a common share as compared with 1939 net income of $1,095,962, or $1.12 a share.

CLEANING ALUMINUM

The cleaning art as applied to aluminum, — what cleaners, what cleaning methods, —and the chemical behavior of aluminum in cleaning,—to be discussed in an early issue by J. R. Akers and R. B. Mears of the Aluminum Company of America.

ADMA To Meet May 5-8

The 30th annual meeting of the American Drug Manufacturers Association will be held at the Greenbrier, White Sulphur Springs, West Virginia, May 5th to 8th. Reservations for the meeting may be made through George D. O'Brien, assistant manager of the Greenbrier.

Water Conditioning Bulletin

A new 48-page catalog on hot process water softeners for removal of hardness, silica, and other scale-forming materials from boiler feed and industrial process waters has just been published by Cochrane Corp., Philadelphia. In addition to heat balances, flow diagrams, construction drawings and engineering tables and charts, the pamphlet contains a nine-page appendix of feed water chemistry. It is said to provide a basis for selecting the proper method of feed water conditioning for any given plant.

Felton Expands Brooklyn Plant

Felton Chemical Co., Brooklyn, is now in the process of adding space to its Brooklyn plant for the accommodation of more laboratories and offices and for a new flavor-manufacturing department.

P. & G. Employees Meet

Through the profit-sharing plan of the Procter & Gamble Co., dividends totaling $1,010,914 were distributed to employees in plants and offices in the United States and Canada during 1940, it was announced at the semi-annual employees' meeting in Cincinnati on February 1. Cincinnati employees held their 107th meeting in Music Hall, attended by President Richard R. Deupree, and Fred A. Brown, superintendent of the Ivorydale plant. Company employees, it was revealed, own outright or have in their names 163,940 shares of P. & G. common stock, with an approximate market value of $9,512,000. Since the plan went into effect in 1888, employee dividends have totaled over $17,000,000.

Wage Decision Against DuBois

Following a recent United States Supreme Court decision on the wage and hour law, Judge Mack, of Common Pleas Court, Cincinnati, awarded $858 to J. Munroe Floyd, representing overtime and damages, against the DuBois Soap Co., Cincinnati.

Swift Issue Employee Report

Swift & Co., Chicago, have just issued their annual "Report to Employees," covering operations during 1940. John Holmes, Swift president, explains income and expenditures in answer to such questions as "What We Accomplished," "How We Stand Financially," or "How Our Business Grew." Among other subjects touched on are "taxes," the company's pending wage-hour test suit and its future effects on employes, the advertising and research program and employes' pensions. Harold H. Swift, vice-chairman of the board, tells employees the story of Mr. Holmes' relations with the company since his start 34 years ago as a 15-year-old errand boy earning ten cents an hour for a 60-hour week.

Shaving Powder Order

Morehouse Manufacturing Co., trading as Shaving Powder Co., Savannah, manufacturer of a preparation for use in removing hair called "Magic Shaving Powder," has recently been ordered by the Federal Trade Commission to cease misrepresentation of its product. According to commission findings, company representations that the method is new and is harmless to the skin are deceptive and exaggerated in that the powder is a depilatory and dissolves the hair. Two of the active ingredients, it is said, are barium sulfide and calcium hydroxide which may be harmful to the skin and may result in injury to the eyes of the user. The company is ordered to cease advertising that the product is a new method for removing hair or that the method constitutes shaving. It is also ordered to include in any future advertising cautionary statements to the effect that "Magic Shaving Powder" should not be used by those having a tender skin and should not be allowed to get into the eyes.

Indian Soap Maker in U. S.

P. T. John, technical director of the soap department of Tata Oil Mills Co., Ltd., Bombay, India, arrived in New York recently and will spend several months in United States and Canada studying American soap making methods. He left New York late in February for a six weeks' trip to Canada and will return to New York early in April, spending several weeks there before his departure for Bombay.

Bon Ami Earnings Lower

Net income of Bon Ami Co., New York, for the year 1940, was $1,339,593, as compared to net income of $1,481,771 for 1939.

A A T C C Holds Dinner-Dance

The New York section of the American Association of Textile Chemists and Colorists held a dinner-dance recently in the Swiss Chalet, Rochelle Park, N. J. A feature of the affair was a showing of the colored motion picture, "A Color Symphony of the West," which was taken last Summer by W. von Bergen of Forstmann Woolen Co., while on a tour of the western states.

Cudahy "Old Dutch" Promotion

Cudahy Soap Works featured cash prizes of $1,000 and $500 in a contest last month among Chicago housewives, featuring new, improved "Old Dutch Cleanser." Contestants were required to finish this sentence: "I like new, improved Old Dutch Cleanser for cleaning pots and pans because ——."

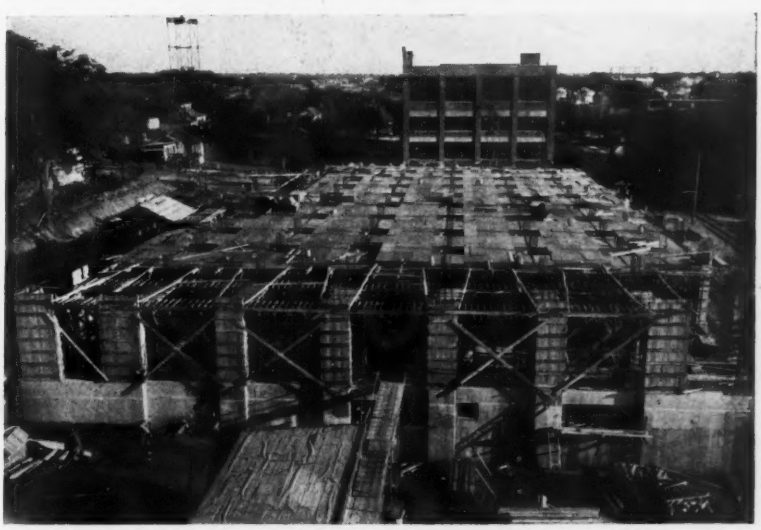
New Metallic Soap Book

A new book on "Metallic Soaps" has just been published by Metasap Chemical Co., subsidiary of National Oil Products, Harrison, N. J., according to an announcement by G. D. Davis, in charge of research. Compiled primarily for the technical man, the new book contains convenient data on the standard well-known metallic soaps such as aluminum, lead, zinc and calcium soaps. Perhaps of greater interest are some of the less commonly known metallic soaps described in the booklet made from the salts of titanium, chromium, cerium, etc. A chart, designed for laboratory use, listing the properties of all metallic soaps, is included.

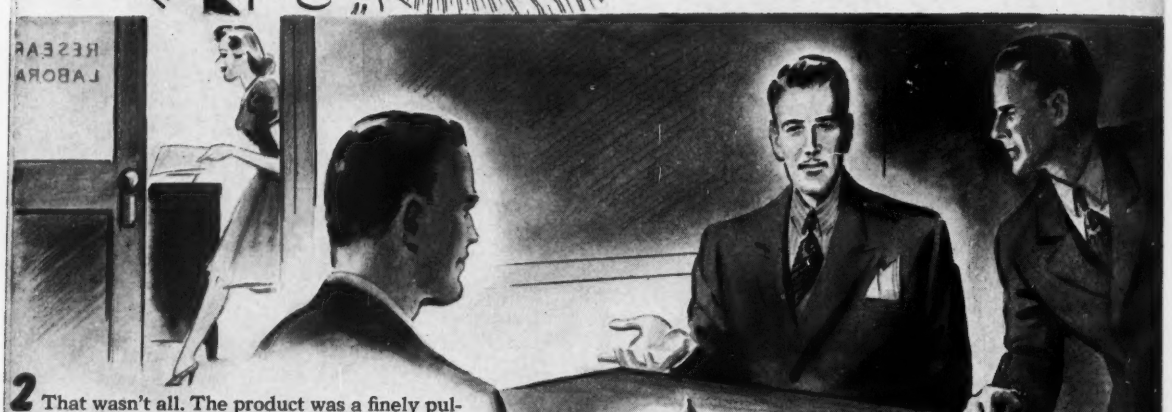
Correction

Hershey Estates is in Hershey, Pa., not in Lebanon, Pa., as we stated last month. We missed by about thirteen miles.

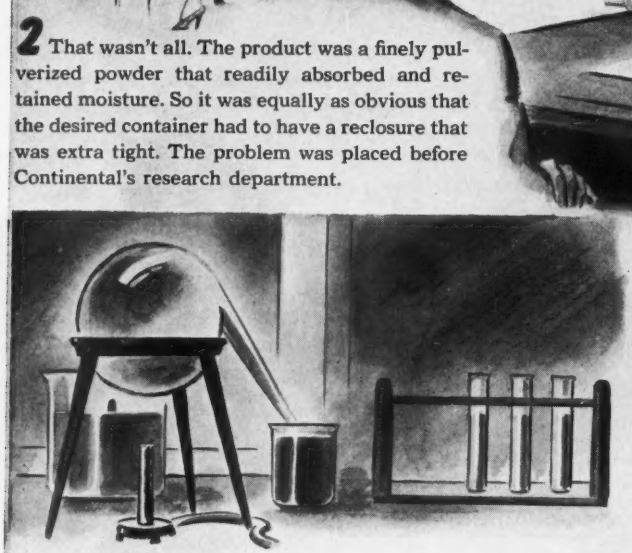
Construction is reported progressing rapidly on the new Dallas, Texas, soap plant of Procter & Gamble Co. The new soap factory is adjacent to the old P. & G. Dallas shortening plant. Form work for the third floor had just been put in place in photograph below.



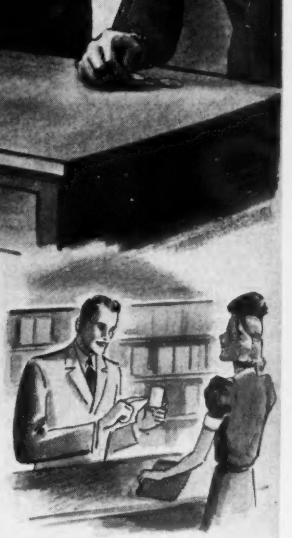
1 The L. N. Hall Company had developed a new product —a powder. Due to production costs, it was obvious that the product had to be packaged in an inexpensive, reclosable container that would be light, unbreakable, easy to fill, ship, and sell.



2 That wasn't all. The product was a finely pulverized powder that readily absorbed and retained moisture. So it was equally as obvious that the desired container had to have a reclosure that was extra tight. The problem was placed before Continental's research department.



3 Our laboratory experts went to work. The solution came after intensive research. A new type of gasket was developed for the inside cover of the container that worked perfectly. Test packs proved it was just what was needed. The powder remained perfectly dry.



4 Today, this new product is being marketed with great success. It's popular with consumers because it's a good product . . . and because it comes in a convenient, easy-to-use container. This case is typical of hundreds of packaging problems involving research, development, and design solved by Continental every year. Have you such a problem? Bring it to Continental.

**The packaging facts of this story are taken from a true case history in our files. Names are necessarily fictitious.*

CONTINENTAL CAN COMPANY
OFFICES AND PLANTS IN ALL PRINCIPAL CITIES

Philadelphia Health Edict

A recently enacted health ordinance of the City of Philadelphia insists on the observance of rigid standards in the washing of dishes, glasses, etc., in all public eating and drinking places in the city. Specific instructions are as follows:

1. All dishes, glasses or other receptacles or utensils shall be washed after each service until clean to the sight and touch.

2. All dishes, glasses, etc., shall then be sanitized according to one of the following methods: (a) Immersion or contact for at least three minutes in water heated to a minimum temperature of 180° F. This section applies only to those places using hand methods and not those using approved machine washing. (b) Immersion or contact for at least 30 seconds in a chlorine disinfectant in such quantities as to yield approximately 200 parts per million of available chlorine. (c) Dipping, immersion, or contact in a solution of such other germicide as may be permitted by the director, department of public health. (d) Exposure to ultra-violet radiation applied by means of equipment and for such time as may be permitted by the director. (e) Satisfactory cleansing and sanitization in approved motor driven machines properly equipped with thermo switch for insuring at least 180° F. rinse water during operation of machine, this rinse to spray on dishes, etc., for at least 10 seconds. (f) Such other effective sanitization methods as may be approved by the director.

3. Towel drying or polishing after sanitization is not desirable and should be discontinued.

4. Temperatures lower than those specified or solutions deficient in chemical strength for the sanitization of dishes, etc., will be considered a violation of the act.

Cellophane Ruled Generic Term

E. I. DuPont de Nemours & Co., Wilmington, Del., was denied exclusive right to the word "cellophane" in a recent decision of the district court, Richmond, Va., which held that the word is a generic term and that no other word or combination of words could adequately describe the product. The DuPont company sought to prevent Sylvania Industrial Corp., Fredericksburg, Va., from using the term for a cellulose material it manufactures.

P. & G. Preferred Dividend

Procter & Gamble has declared the regular quarterly dividend of $1.25 a share on 5 per cent preferred stock, payable March 15 to stockholders of record February 25.

S. & S. Hold Meeting

Representatives of the packaging department of Stokes & Smith Co., Philadelphia, held a meeting last month at the Philadelphia plant at which several new models of filling and packaging machinery were demonstrated by the engineering department.

ASTM Soap Committee to Meet

A meeting of committee D-12 of the American Society for Testing Materials is to be held at the Hotel New Yorker, New York, March 10th and 11th. Harry Trevithick of the New York Produce Exchange is general chairman of the committee and B. S. Van Zile of Colgate-Palmolive-Peet Co., Jersey City, is secretary. The schedule of committee meetings is as follows:

Monday, March 10, 1941

Time	*Subcommittee*	*Section*	
9:30-11:30 A.M.	II	E	Sulph. Detergent—Spec.
9:30-11:30 A.M.	II	F	Spec. Detergent—Spec.
11:30-1:00 P.M.	I	D	Spec. Detergent—Methods
11:30-1:00 P.M.	I	A	Soap—Methods
2:00-5:00 P.M.—Joint	II	C	Straight Soaps—Spec.
	II	A	Textile Soaps—Spec.
3:30-4:30 P.M.—Joint	I	C	Dry Cleaning
	II	D	
4:00-5:00 P.M.	Advisory Committee		

Tuesday, March 11, 1941

9:00-11:00 A.M.	II	B	Built Soaps—Spec.
9:30-11:00 A.M.	II	G	Metal Cleaners—Spec.
11:00-1:00 P.M.	III		Definitions
11:00-1:00 P.M.	IV		Publications
11:00-1:00 P.M.	I	B	Sulfonated Oils—Methods
1:00 P.M.—Luncheon			
2:30 P.M.	Subcommittee Meetings and General Meeting		

December Soap Exports

United States exports of various kinds of soaps during December, as reported by the Bureau of Foreign and Domestic Commerce, were as follows:

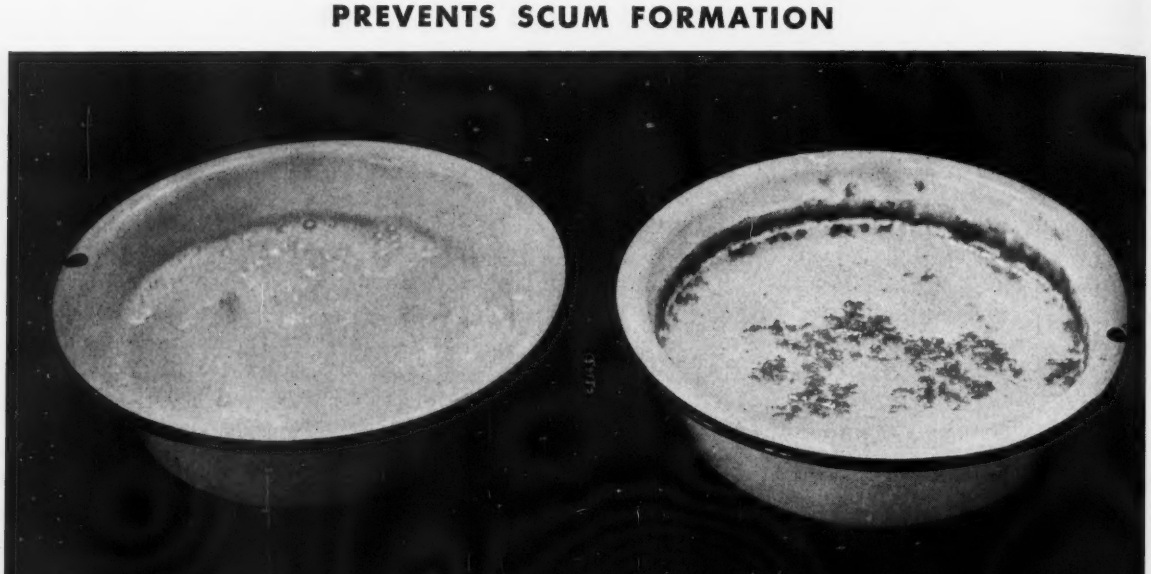
	Pounds	*Value*
Medicated	21,046	$8,102
Toilet or fancy	558,700	101,936
Laundry	758,677	36,000
Powdered or flaked	118,762	10,367
Shaving creams	23,427	11,072
Shaving cakes, powders and sticks	5,041	2,759
Shaving soaps, bricks, pastes and powders	183,901	12,711
Other soap	107,472	10,259

Speaks on Indian Soap Mfr.

Dr. Ilona Taussky, consulting chemist, New York, recently addressed the Rotary Club of Seymour, Conn., on her "Recollections of Working Conditions in the Indian Oil Industry in 1936." In India, it was brought out, the soap industry is confined principally to small companies making cheap grades of soaps chiefly from coconut oil and Mohwra oil. The larger up-to-date soap plants, mainly in the neighborhood of Bombay, manufacture some fine grades of toilet soaps which are perfumed according to the oriental taste. The use of tallow is taboo in India since cattle are sacred to the Hindu religion and cannot be harmed without severe penalties. Miss Taussky's talk was concluded with a description of oil refining as practiced in India under the complications of the caste system.

HERE'S THE EVIDENCE

DU PONT
TETRA SODIUM PYROPHOSPHATE
PREVENTS SCUM FORMATION



BOTH OF THESE PANS were first filled with equal amounts of hard water and soap suds. BUT—in the left pan, 0.1% Du Pont T.S.P.P. was added. One teaspoonful of melted butter colored with a red dye was stirred into each pan . . . each mixture stirred briskly. See how the grease killed suds in the right pan . . . how it clung tenaciously to the sides in a sticky "ring" and floated on the surface as scum. Now see the benefits of Du Pont T.S.P.P. (left)—the suds are still active, the grease is thoroughly emulsified throughout the solution, and there is no scum formation!

WHEN the solutions were poured out of these pans, each pan was rinsed thoroughly with warm water. The right pan still carried a sticky "ring" . . . soap scum which did not rinse off. The pan containing Du Pont T.S.P.P. carried no scum "ring" . . . and it rinsed perfectly clean. That's why objects being washed —wash cleaner when Du Pont T.S.P.P. is used.

As a detergent in the prevention of soap scum in dishwashing and laundering operations . . . as a water softener . . . and as an emulsifier, Du Pont T.S.P.P. is unexcelled. So be sure to include Du Pont T.S.P.P. in your soaps and cleaning compounds. Let us also quote you on T.S.P., Sodium Silicate, Sodium Metasilicate, Caustic Soda, Soda Ash and other chemicals.

E. I. DU PONT DE NEMOURS & COMPANY (INC.)
GRASSELLI CHEMICALS DEPT. • WILMINGTON, DELAWARE

DU PONT TETRA SODIUM PYROPHOSPHATE

FTC Modifies Wrisley Order

An order from the Federal Trade Commission directed against Allen B. Wrisley Co., Chicago, dated April 6, 1940, dealing with representation of the olive oil content of certain soaps was recently modified in some particulars following a petition from the companies cited. Other companies in the case are Allen B. Wrisley Distributing Co., also trading as Regal Soap Co., and Karl Mayer, George A. Wrisley and Wrisley B. Olson, trading as Karl Mayer & Co., all of Chicago.

Under the commission's order as modified, the companies are directed to cease representing that a soap which does not contain olive oil to the exclusion of all other oils is an olive soap. They are further ordered to cease using the brand names or labels: "Olivilo," "Royal Olive Oil Pure," "Purito Olive Oil Castile," "Olive-Skin Pure Toilet Soap," or "Del Gloria Castile Made With Pure Olive Oil" but are permitted the use of the trade names "Palm and Olive Oil Soap," "Palm and Olive Soap" and "Oliv-Palm Complexion Soap."

The order further provides that nothing contained in it shall prevent the companies from using brand names containing the word "olive" to describe a soap containing olive oil combined with other oils if it is made clear that such soap is not made wholly from olive oil, and if olive oil is present in an amount sufficient substantially to affect its qualities.

Naugatuck Buys Riviera

Following the death of Joseph DeLorme, Riviera Products Co., Chicago, was taken over last month by Naugatuck Aromatics, division of United States Rubber Co., New York, who acquired all formulae and inventories of the Riviera Company. The business will be continued, with B. T. Grabowski, perfumer, and Mrs. E. L. Begley, who have been connected with Riviera for many years remaining under the new set-up. Harold J. Edmon who has represented Naugatuck Aromatics in Chicago for several years, will be in charge.

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Klaber Joins Quaker

J. H. Klaber, graduate of Massachusetts Institute of Technology and the University of Illinois, recently joined the technical sales and research department of Quaker Chemical Products Corp., Conshohocken, Pa.

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Hooker Elects Officers

Hooker Electrochemical Co., Niagara Falls, N. Y., recently announced the election of the following officers: H. M. Hooker was re-elected president; E. R. Bartlett was elected executive vice-president; R. L. Murray, vice-president in charge of development; R. W. Hooker, sales manager, was also elected a vice-president; L. A. Ward was re-elected secretary and assistant treasurer; J. F. Bartlett was re-elected treasurer and assistant secretary; W. A. Perrin and D. A. Riordan were elected assistant treasurers.

—— ♦ ——

Feature "Avalon" in Soap Sale

Kroger Grocery & Baking Co. conducted a special soap sale in Chicago units of their chain last month in which the company's private "Avalon" brand laundry soap flakes were featured. Cups and saucers and dish towels were used as premiums. Kroger's "Avalon" line of soaps has been on the market about a year and a half, a company representative stated. The special sale was not limited to the two "Avalon" products, 35 other nationally advertised soaps and cleaning compounds being offered as well.

SOAP CONTENT?

How much soap in a 40 per cent liquid soap? What should be counted as soap,—and what not? A frank discussion of this oft-discussed question with a few slants from the trade in the next issue. Watch for it!

1940 Package Contest Winners

J. B. Williams Co., Shulton, Inc., John Bradshaw Co., and Shu-Milk Products Corp. were named among the prize winners of the 1940 All-America Package Competition recently sponsored by *Modern Packaging* magazine, New York. In the plastic containers class, one prize went to J. B. Williams Co., Glastonbury, Conn., for its new plastic shaving stickholder molded by Colt's Patent Fire Arms Mfg. Co. Shulton, Inc., New York, was awarded a prize for its floor display cabinet for the "Early American Old Spice" line of toiletries. In the rigid transparent containers class, packages of toiletries including cold cream soap displayed by John Bradshaw Co., Boston, were awarded a prize, and Shu-Milk Products Corp., Passaic, N. J., won an award in the closure classification with its application for white shoe dressing. The award trophies are to be officially presented at the All-America Presentation Banquet at the Stevens Hotel, Chicago, on April 2.

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Mallinckrodt Elects Boyleston

Arthur C. Boyleston, vice-president and general manager of Mallinckrodt Chemical Works, St. Louis, since 1925, and affiliated with the company for the past thirty-two years, was recently named president filling the post left vacant by the death of Oscar L. Biebinger. Dr. F. W. Russe, who will retain his position as secretary of the company, has also been elected a vice-president. M. A. Frohock, in addition to his duties as assistant secretary and treasurer, will also serve as a vice-president. S. W. Coleman who has been merchandise manager and formerly held executive positions with Akron Soap Co., Swift & Co. and Hecker Products Corp., succeeds Mr. Frohock as general sales manager.

—— ♦ ——

Olive Oil Group to Meet

The 1941 annual dinner and meeting of the Olive Oil Association of America, Inc., New York, will be held April 3, at the Hotel Astor, New York.

■ BERGAMOT ■ BERGAMOT ■ BERGAMOT ■

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■ BERGAMOT ■ BERGAMOT ■ BERGAMOT ■

THREE MONEY-SAVING SUBSTITUTES for BERGAMOT

BERGAMOT IMITATION
BERGAMOT ARTIFICIAL
BERGAMOT ARTIFICIAL EXTRA

The shortage of many natural oils and consequent need for imitations is no warrant for incautious selection of substitutes. Actually, the obligations of supplier and responsibilities of buyer are greater under these circumstances than ever before. We are aware of this obligation in offering these three grades of BERGAMOT and in stating that each provides that little **added** value which always tells to advantage in the manufacturer's finished product. Our artificial oils will enable him to meet every perfuming requirement, regardless of quality or price. May we submit samples?

FRITZSCHE BROTHERS, Inc.
PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.
BRANCH STOCKS
BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.
FACTORIES AT CLIFTON, N. J AND SEILLANS (VAR) FRANCE

Expands "Neo-fat" Output

Armour & Co., Chicago, have announced plans for immediate expansion of facilities for production of "neo-fats," the synthetic drying oils recently developed as a by-product of the Armour Soap Works. One new unit will be built for producing "neo-fats" and a second will handle chemical derivatives, according to E. W. Wilson, assistant general manager of the Armour Auxiliaries. The discovery of "neo-fats," Mr. Wilson said, resulted from an effort originally started to find a way of converting low-grade fats into soap fats. A fractional distillation process was developed for synthesizing soybean, cotton seed, corn and fish oils. The resulting products, it was quickly realized, had more value as drying oils than as soap fats. The new units are expected to be ready for operation early in the spring.

Foot Shampoo Stipulation

William Newman, trading as Newman Products Co. and as Newman Institute, Brooklyn, engaged in the sale of "Williams Foot Shampoo" and other foot products, has recently entered into a stipulation with the Federal Trade Commission to cease using the word "Institute" as a part of his trade name and to cease issuing any so-called "certificates" or to represent in any way that his agents are qualified to advise concerning the care of the feet. He has also agreed to stop inferring that his commodities were manufactured by or purchased from J. B. Williams Co. or that he has any connection with J. B. Williams Co.

Soap Industry in England

The war has brought the British soap manufacturer many difficulties, among which may be mentioned restrictions in the oils and fats available, olive oil having practically disappeared from the market, and curtailment in the use of caustic potash. It has also been found necessary to cut down to a maximum of 0.5 per cent the glycerine left in soap during manufacture, with increased demand for fatty acids as soap-making material. *Perfumery & Essential Oil Record* **31,** 391 (1940).

Felton Executive on Trip

Louis Gampert, vice-president and general sales manager of Felton Chemical Co., Brooklyn, is currently visiting the various Felton offices throughout the southern, western and middle-western parts of the United States.

Barry Heads D. & C. Club

William D. Barry, of the New York office of Mallinckrodt Chemical Works, St. Louis, was recently elected president of the New York Drug and Chemical Club.

Grocery Mfgrs. To Meet

The annual convention of the Associated Grocery Manufacturers of America will be held May 22-23, at Skytop, Pa.

Geranium Oil Composition

(*From Page* 33)

free hydrochloric acid. This can be obviated by the use of mercuric acetate (sufficient chlorine ions being present after the titration and acidification) or by adding sodium acetate to the mixture.

The following results were obtained:

	Total ester calc. as acetate Per cent	*Formate found Per cent*
1. Oil Geranium (from which sediment had been deposited) 10 g. yielded 3.03 g. HgCl = 0.3 formic acid = 11.9% formate		
2. Oil Geranium, Algerian	20.8	12.7
3. Oil Geranium, Reunion	22.7	11.3
4. Oil Geranium, Reunion	20.8	8.9
5. Oil Bergamot	37.0	0.7
6. Oil Petitgrain, South American	44.5	0.3
7. Oil Lavender	26.0	2.5
8. Oil Peppermint	9.5	0.1
9. Oil Rosemary	2.8	0.05
10. Oil Sandal	—	0.05
11. Oil Pine Needles	30.9	0.3
12. Oil Cardamon	—	1.2

The very small percentages found in some of the samples cannot, however, be considered as positive evidence of the presence of formic, for a slight reduction of the mercuric salt is likely to occur from other causes. For example, a check assay was made by neutralizing 16.2 cc. 0.5 N potassium hydroxide with commercial formic acid, and treating the solution with mercuric acetate as described. The mercurous chloride obtained weighed 3.916 g., equivalent to 0.3814 formic acid, or 102.3 per cent. The results on the oils are also possibly a little high for the same reason.

The occurrence of formic acid in oil of citronella was noted by the writer in 1903. Examination of the alkaline liquor, obtained in the preparation of geraniol, showed the presence of a variety of acids. Thus, the liquor from 50 pounds oil was concentrated to about 5 pounds, and acidified with sulfuric acid, which precipitated a dark oil, amounting to 200 g. This crude acid was converted into ethyl ester, and carefully fractioned, yielding:

Below 70°, 5 g. mostly ethyl formate
70-100°, 25 g. mostly ethyl acetate
120-125°, 100 g. mostly ethyl butyrate
160-170°, 20 g. mostly ethyl caproate

and higher sections not identified.

Only a portion of the formic acid was thus obtained, and no determination of the actual amount in the oil was made. A sediment from a zinc-lined container of oil of lemongrass proved also to be zinc formate, and the oil showed a content of about 1 per cent formic acid.

The relatively large amount of formic acid found in oil of geranium appears to be characteristic, and the determination of the content in formic ester may occasionally be of use in the technical examination of the oil.

Since the above analyses were made, the writer has found that Behal has also noted the occurrence of formic acid in this oil[1] without, however, reporting any analytical data.

[1] Bull. Soc. Chem. (1914) 306.

U.S.I. ALCOHOL NEWS

March ★ A Monthly Review of Technical Developments for Chemists and Executives ★ 1941

LONG-RANGE POLICY AIDS U. S. I. IN MEETING DEMAND FOR ALCOHOL

Photo shows U.S.I.'s huge plant for the production of ethyl alcohol at Baltimore, Md. Other plants are located at Anaheim, Calif., New Orleans, La., and Newark, N. J., serving major industrial areas throughout the country. All plants are conveniently located on seaboard.

Company's Development Program Helpful to Users of Alcohol

The long-range policy of plant and product development which has been consistently followed by U.S.I. for thirty-four years is proving especially valuable at the present time in helping to meet current demands for ethyl alcohol, both for defense purposes and for normal industrial needs.

Current conditions have resulted in a sharp increase in the demand for industrial ethyl alcohol. Even in normal times, alcohol is one of the most important and versatile raw materials used by industry, and its importance today is greatly enhanced by its indispensability in scores of products required for national defense. An additional factor in increasing the demand for ethyl alcohol is the shortage of isopropyl alcohol, which, among other uses, is being employed in large quantities for the manufacture of synthetic acetone. Many manufacturers who had substituted isopropyl alcohol for ethyl alcohol are now reverting to the use of ethyl alcohol as a more consistently available material.

Product Development

As the pioneer producer of industrial ethyl alcohol in the United States, U.S.I. has planned its research and development program with a view to anticipating the requirements of the users of alcohol, both in standards of quality and in production facilities. The contributions made by U.S.I. to the science of alcohol chemistry have resulted in continuous improvement of quality, lower cost to the buyer, and uniformity in meeting technical specifications.

Plant Facilities

In the development of plant facilities and production processes, U.S.I.'s program has been directed toward prompt servicing of customers' needs. Manufacturing plants, employing the most modern methods for rapid volume production, are operated in four cities located in major industrial areas: Baltimore, Md., Newark, N. J., Anaheim, Calif., New Orleans, La. In addition, alcohol stocks are maintained in warehouses in principal cities throughout the country. With these large-scale, strategically located production facilities and convenient warehouses, U.S.I. is in a favorable position to service the needs of government and industry.

TECHNICAL DEVELOPMENTS

For further information write U.S.I.

An emulsion base is said to be suitable for blending with essential oils and aromatics to make them self-emulsifying in water. Base is described as almost water white, practically neutral and odorless, low in cost. **(No. 430a)**

A pyrethrum extract is described as almost entirely free from odor. It is also said to possess superior clarity, better color, high stability, and good kill power and knockdown. **(No. 431a)**

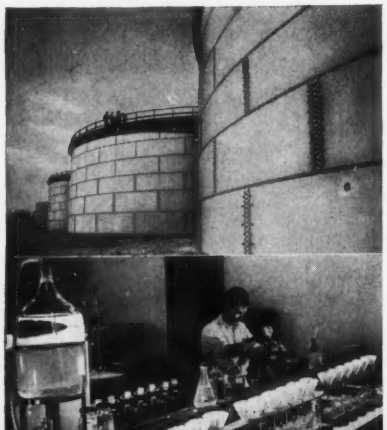
A new photometer is designed for determining Vitamin A concentration by measuring the amount of ultra-violet light transmitted by the Vitamin A solution, according to the manufacturer. It is said that the measuring range covers the widest variations encountered in any one type of commercial fish oil. **(No. 432a)**

New use of rotenone in the treatment of scabies is suggested by recent experiments. An Irish moss lotion containing 1-2% of rotenone is said to have proved effective in a number of cases. **(No. 433a)**

A five-roller mill is reported to be designed for high production of exceptionally thin soap flakes, and to be suitable for automatic milling of toilet soap. **(No. 434a)**

A musk-type aromatic is said to be soluble in alcohol, essential oils, and most aromatic chemicals. It is reported that in solution the odor closely simulates that of genuine musk. **(No. 435a)**

A lasting lemon odor can be produced in soaps and creams with a chemical that is free from objectionable by-odors, according to the manufacturer. The product is said to be suitable for use in colognes also. **(No. 436a)**



***(Above)* These storage tanks at the Baltimore plant have a combined capacity of more than 20,000,000 gallons of molasses, the principal raw material in the manufacture of U.S.I. alcohol.**

***(Below)* Molasses samples are tested in U.S.I.'s laboratory in order to produce the maximum yield of alcohol from the raw material.**

U.S.I. INDUSTRIAL CHEMICALS, INC.
60 EAST 42ND ST., NEW YORK (USI) BRANCHES IN ALL PRINCIPAL CITIES
INDUSTRIAL ALCOHOL IN ALL GRADES AND ALL FORMULAS

CONTRACTS AWARDED

Army Soap Awards

In a recent opening by the Army Quartermaster Corps, Bklyn., the following contracts were awarded: Sterling Supply Corp., Phila., 300,000 lbs. laundry soap at 5.66c.; Armour & Co., Chicago, 40,000 lbs. soap chips at 5.91c. and Pennsylvania Salt Mfg. Co., Phila., 20,000 lbs. laundry sour at 13.39c.

TSP Award

Goris & Co., Chicago, was awarded a contract on 150,000 lbs. trisodium phosphate at 2.6c. lb., in a recent opening by the Army Quartermaster Corps, Chicago.

Naphthalene and Soap Award

In a recent opening by the Army Quartermaster Corps, Ft. Sam Houston, Tex., Procter & Gamble Distributing Co., Dallas, was awarded a contract for 117,000 cakes toilet soap at 2.35c. In the same opening, Barrett Co., New York, was awarded a contract for 88,500 lbs. naphthalene at 6.19c.

Chip Soap Bid

Colgate - Palmolive - Peet Co., Jersey City, submitted the low bid on 3,240 lbs. chip soap at 5.51c. in a recent opening by the Post Office Dept., Washington, D. C. In the same opening, Armour & Co., Chicago, was low on a similar amount of chip soap at 6c.

Metal Polish Bid

International Metal Polish Co., Indianapolis, submitted the low bid on 9,624 qts. liquid metal polish at 1.5c., fob plant, in a recent opening by the Army Air Corps, Wright Field, Ohio.

Naphthalene Flake Award

H. H. Rosenthal Co., New York, was awarded a contract in a recent opening by the Army Quartermaster Corps, Rock Island Arsenal, Ill., for 10,000 lbs. naphthalene flake at 7.47c. lb., del.; in the same opening, Reilly Tar & Chemical Corp., Indianapolis, was awarded a contract for 5,000 lbs. at 6.912c. lb., del.

Metal Cleaner Bid

Pennsylvania Salt Mfg. Co., Phila., was the only bidder on 50,000 lbs. metal cleaner in 400 lb. one-way shippers at 5.58c. lb. in a recent opening by the Army Quartermaster Corps, Rock Island, Ill.

Cleaning Compound Bid

Zophar Mills, Bklyn., submitted the low bid in a recent opening by the Panama Canal, Washington, on 2,000 lbs. cleaning compound at $180.

Rust Compound Bid

In a recent opening by the Panama Canal, Washington, R. M. Hollingshead Corp., Camden, N. J., submitted the low bid on 20,000 lbs. rust preventive compound, $780.

Air Corps Bids

Globe Solvents Co., Phila., submitted the low bid on 76,744 gals. dry-cleaning solvent at 13.1845c., in a recent opening by the Army Air Corps, Wright Field, O. In another opening, H. H. Rosenthal Co., N. Y., submitted the low bid on 22,000 lbs. flake naphthalene at 6.14c. lb.

Rust Compound Bid

Dearborn Chemical Co., Chicago, submitted the low bid on 20,000 lbs. rust-preventive compound at 10.7c. lb., in a recent opening by the Navy Dept., Washington.

Bleaching Earth Quality

The bleaching of oils and fats with adsorptive clays has long been practiced. The testing of bleaching earth consists in the determination of the specific gravity with a special pycnometer. It varies for Fuller's earth from 2.3 to 2.6, for chemically treated earth from 1.8 to 2.3. The most important test is to find out the bleaching strength, which can be done only by experiments on unbleached oils, in comparison with standard brands of bleaching earth, using soybean, linseed or rapeseed oil but not sesame oil, for tests with vegetable oils. Determination of acidity of the bleaching earth is also essential, as the lower it is the more suitable the material is for edible-oil refining. Frederick Neurath. *Chem. Age* **43,** 287-8 (1940).

Sulfonated Tall Oil

Tall oil, recovered from kraft waste cooking liquor, contains 25-60 per cent of fatty acids, mainly of the oleic series, 25-60 per cent of rosin acids, and 7-20 per cent of unsaponifiable material made up of phytosterol, lignin, mercaptans, higher alcohols, etc. Sulfonation, extraction, distillation and chemical attack have been proposed to separate the rosin and fatty acids from tall oil, but distillation is the commonly used commercial method of both separating and refining in this country. Tall oil, a cheap fatty acid substitute, is a potential source of various derivatives made from the separated rosin and fatty acids, such as sulfonated fatty acid detergents.

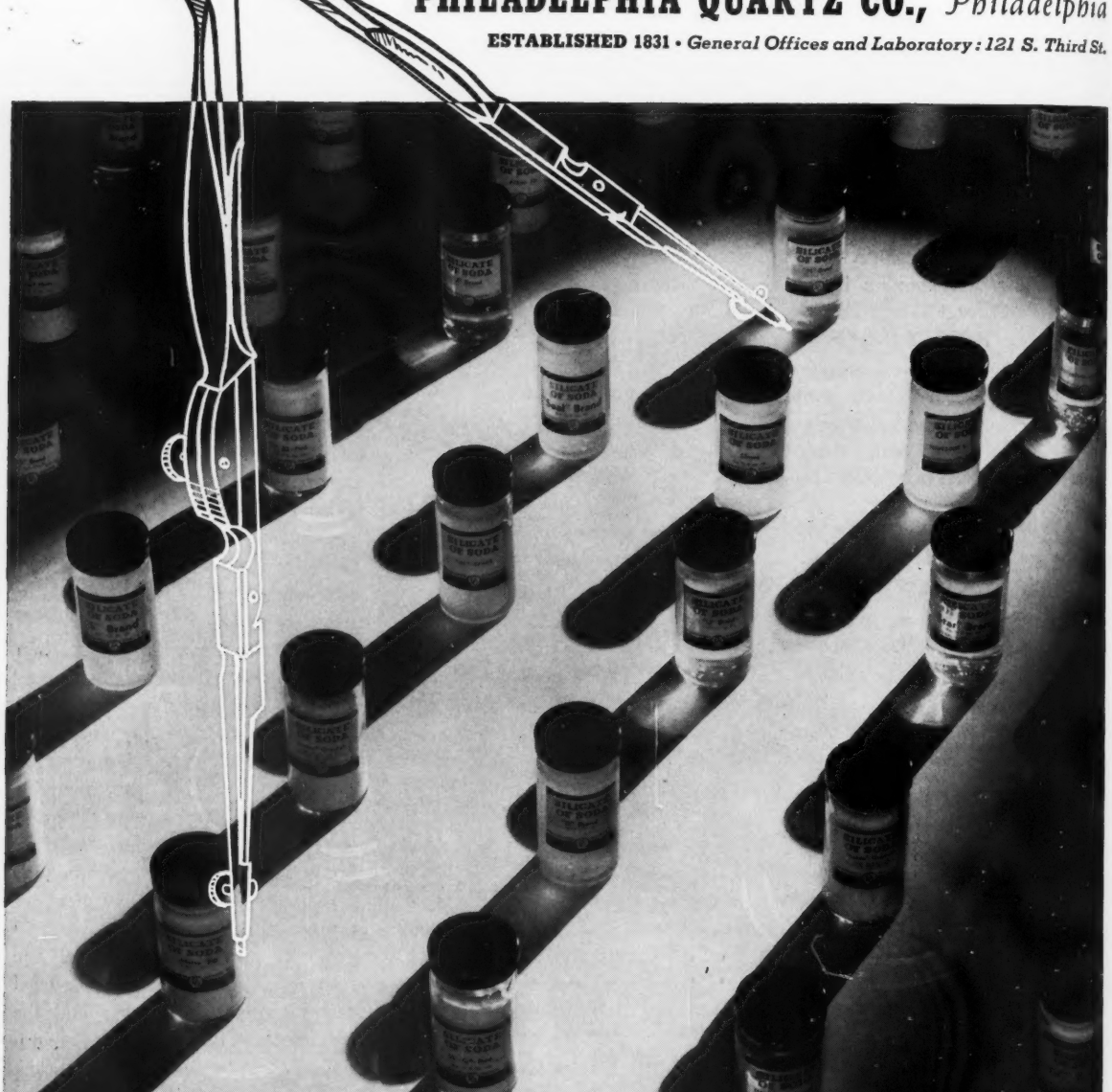
Extraction with hydrocarbon solvents and purification with concentrated sulfuric acid were investigated as a means of removing color and odorous bodies. Extraction removed a small quantity of tarry material but did not greatly improve the product. Sulfuric acid treatment at 0° C. produced a clear light colored oil, with yields of 33.7 and 41.9 per cent of abietic acid. At 0° C. when 90 per cent sulfuric acid is used, the fatty acid content can be reduced without appreciably reducing the rosin content, thus permitting separation of these two constituents. Frank C. Vilbrandt, Paul E. Chapman, and Jerome M. Crockin. *Ind. Eng. Chem.* **33,** 197-200 (1941).

WIDEN YOUR SILICATE GRADE RANGE.

From $3Na_2O$, $2SiO_2$ to Na_2O, $3.9SiO_2$, you'll find over 30 sodium silicates in the PQ line. "N" Brand, the original soap makers' silicate, still faithfully serves the industry. But more soap and detergent manufacturers are investigating the efficiency of other grades with special properties, as well as the higher alkali ratio brands, such as "K", "U" and "C". If you plan a new detergent, or a change in a present brand, let us discuss the appropriate PQ silicate. Have you a copy of Bulletin No. 170—The Role of Silica in Soluble Silica Cleansers? Free on request.

PHILADELPHIA QUARTZ CO., *Philadelphia*

ESTABLISHED 1831 • *General Offices and Laboratory: 121 S. Third St.*



NEW TRADE MARKS

The following trade-marks were published in the February issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

GLORISHINE — This in outline letters inside halo describing polish. Filed by Florishine Prods., Sacramento, Calif., Aug. 30, 1940. Claims use since June 4, 1929.

DUSTALL—This in solid letters describing insecticide. Filed by Seacoast Labs., Inc., New York, March 15, 1940. Claims use since April 1, 1935.

GLOSSBATH—This in solid letters describing cleaner. Filed by Turco Prods., Inc., Los Angeles, July 9, 1940. Claims use since Feb. 8, 1940.

KLEER-FLEX — This in solid letters describing cleaner. Filed by Beacon Chemical Corp., Phila., Nov. 27, 1940. Claims use since Nov. 27, 1940.

DRYORTH—This in solid letters describing detergent. Filed by Cowles Detergent Co., Cleveland, Nov. 27, 1940. Claims use since Oct. 29, 1940.

CORTILLA—This in solid letters describing soap. Filed by Davies-Young Soap Co., Dayton, July 31, 1940. Claims use since March 14, 1938.

CLAIROL—This in reverse letters describing shampoo. Filed by Clairol, Inc., New York, Nov. 15, 1939. Claims use since March, 1925.

CONTOURE—This in solid letters describing shampoo. Filed by A. Breslauer Co., New York, May 28, 1940. Claims use since July 1, 1939.

1.8—This in outline letters over "One Point Eight" describing antiseptic. Filed by Ernest O. Osborn, Knoxville, Iowa, Sept. 3, 1940. Claims use since June 14, 1940.

FLOROZONE—This in solid letters inclosed by diamond describing germicide. Filed by Florozone Co., Brooklyn, Sept. 27, 1940. Claims use since 1902.

KENNEL-X—This in solid letters under drawing of two dogs describing insecticidal shampoo. Filed by Kennel- Dog Prods., Baltimore, Dec. 2, 1940. Claims use since July, 1940.

EUCALL—This in solid letters describing germicide. Filed by Norwood Prods. Co., New Albany, Ind., Dec. 10, 1940. Claims use since Oct. 1, 1915.

NAFTEX—This in solid letters describing antiseptic saponaceous mixture. Filed by J. Leon Lascoff & Son, New York, Dec. 17, 1940. Claims use since Nov. 15, 1940.

CORTILLA—This in solid letters describing shampoo. Filed by Davies-Young Soap Co., Dayton, Dec. 30, 1940. Claims use since March 14, 1938.

NICOIL—This in solid letters describing insecticide. Filed by General Chemical Co., New York, Jan. 2, 1941. Claims use since Dec. 3, 1940.

KEYSPRAY—This in solid letters describing moth spray. Filed by Keystone Chemical Co., Cleveland, Jan. 2, 1941. Claims use since June, 1924.

NATIONAL IRON CLAD—This in reverse letters over shield describing floor wax. Filed by National Unclaimed Freight, Kansas City, Mo., May 29, 1940. Claims use since April, 1938.

TERMCO—This in solid letters describing parasiticides. Filed by California Spray-Chemical Corp., Richmond, Calif., Jan. 7, 1941. Claims use since Dec. 23, 1940.

IMUNE—This in reverse letters on black oblong block describing germicide. Filed by Fosca Preparations, New York, Dec. 16, 1940. Claims use since Aug. 7, 1940.

WONDER-KLEEN—This in outline letters describing cleaner. Filed by C. I. Togstad Co., Kokomo, Ind., Aug. 16, 1939. Claims use since Aug. 1, 1939.

ANO-JEL—This in solid letters describing cleaner. Filed by An-Our Co., Cincinnati, June 18, 1940. Claims use since Aug. 17, 1938.

SPAREX—This in solid letters describing cleaner. Filed by Fisher Prods. Corp., Washington, D. C., Sept. 12, 1940. Claims use since June 5, 1940.

LOCKERBRITE—This in solid letters describing cleaner. Filed by Locke Insulator Corp., Baltimore, Nov. 15, 1940. Claims use since Apr. 1, 1940.

MAINTENOL—This in solid letters describing cleaner. Filed by Davies-Young Soap Co., Dayton, Dec. 10, 1940. Claims use since Sept. 3, 1939.

PANCO—This in solid letters describing cleaner. Filed by Thomas D. Sullivan, Washington, D. C., Dec. 19, 1940. Claims use since Dec. 16, 1940.

MON AMI—This in solid letters describing athlete's foot preparations. Filed by Mon Ami Chemical Co., Forest City, N. C., Aug. 28, 1940. Claims use since July 15, 1932.

PANATOL—This in solid letters describing antiseptic. Filed by Surrey Labs., New York, Nov. 14, 1940. Claims use since Sept. 1, 1940.

SPOR-GO—This in solid letters describing fungicide. Filed by General Chemical Co., New York, Nov. 16, 1940. Claims use since Oct. 16, 1940.

CHINALAC—This in solid letters describing deodorant. Filed by Associated Distributors, Inc., Chicago, Nov. 22, 1940. Claims use since June 13, 1938.

TOP NOTCH—This in solid letters describing cleaner. Filed by Top Notch Prods. Co., St. Louis, Nov. 29, 1940. Claims use since Sept. 12, 1940.

KRANICH

Specialists in

PURE POWDERED SOAPS

•

CASTILE, POWDERED
U. S. P.

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COCONUT, POWDERED
Pure

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COCO-CASTILE, POWDERED
50-50

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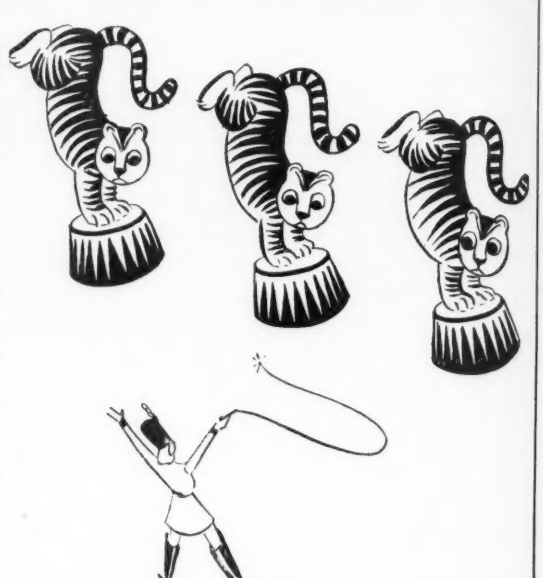
POTASH SOAPS

Liquid Olive Oil Soap Shampoo
Liquid Coconut Oil Soap Shampoo
Liquid Castile Soap Shampoo
Shampoo Base (Olive Oil & Coconut Oil)
Oil Soaps Scrubbing Soaps

KRANICH SOAP COMPANY
56 Richards St. Brooklyn, N. Y.

SOAPS



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Crosby
Pale Wood Rosins

Rigid technical control in the modern Crosby plant makes certain the absolute purity and uniformity of Crosby Pale Wood Rosins. They have high melting point and are clean and crystal clear. Their superior quality has made Crosby nationally prominent.

CALL ON CROSBY FOR QUALITY

Crosby Naval Stores, Inc.
Picayune, Miss.

PINK CLOVER—This in fancy letters describing soap. Filed by Harriet Hubbard Ayer, Inc., New York, Dec. 10, 1940. Claims use since March 1, 1938.

EHRLICH'S 303—This in solid letters describing insecticide. Filed by Julius C. Ehrlich, Reading, Pa., Sept. 28, 1940. Claims use since Sept., 1936.

HEALTH-GARD—This in solid letters over blue cross and scroll describing cleaner. Filed by Health-Gard Process Co., Bklyn., Feb. 28, 1939. Claims use since Jan. 1, 1939.

HOUSE OF GORDON—This in Old English letters under coat of arms describing soap. Filed by Catherine K. Gordon, Chicago, Apr. 10, 1940. Claims use since Sept., 1938.

NOSEGAY—This in solid letters describing soap. Filed by Dorothy Gray Salons, Bloomfield, N. J., Nov. 8, 1940. Claims use since Aug. 19, 1940.

Trade Marks Granted

384,636. Polishing wax. Western Chemical Co., St. Joseph, Mo. Filed Feb. 9, 1940. Serial No. 438,411. Published Apr. 23, 1940. Class 16.

384,660. Soap. L. M. Chemical Co., New York. Filed Aug. 23, 1940. Serial No. 435,305. Published Nov. 19, 1940. Class 4.

384,697. Detergent. Swerl Prods. Co., Oakland, Calif. Filed Sept. 25, 1940. Serial No. 436,363. Published Nov. 19, 1940. Class 4.

384,823. Antiseptic. Isoton Co., Los Angeles. Filed Sept. 3, 1940. Serial No. 435,619. Published Nov. 19, 1940. Class 6.

384,834. Shaving cream. Paul Gunzburg, Pittsburgh. Filed Sept. 6, 1940. Serial No. 435,741. Published Nov. 26, 1940. Class 4.

384,835. Cleaner. General Chemical Co., New York. Filed Sept. 7, 1940. Serial No. 435,755. Published Nov. 26, 1940. Class 4.

384,842. Shampoo. Vert Cosmetic Co., Maxwell, Iowa. Filed Sept. 11, 1940. Serial No. 435,888. Published Nov. 26, 1940. Class 6.

384,891. Insecticide. U. S. Industrial Chemicals, New York. Filed Oct. 8, 1940. Serial No. 436,746. Published Nov. 26, 1940. Class 6.

PAINT CLEANERS

What should and should not be used for cleaning paint? Soaps, alkalies, — what? A discussion of painted surfaces and the compositions of cleaners for the purpose by Dr. C. A. Tyler in an early issue.

384,937. Detergent. Tes Ter Lite Cleaner Co., Montgomery, Ala. Filed April 19, 1940. Serial No. 430,979. Published Dec. 3, 1940. Class 4.

384,960. Cleaner. James Austin Co., Pittsburgh. Filed Aug. 6, 1940. Serial No. 434,708. Published Dec. 3, 1940. Class 4.

385,012. Cleaner. Pennzoil Co., Los Angeles. Filed Sept. 16, 1940. Serial No. 436,034. Published Dec. 3, 1940. Class 4.

385,040. Cleaner. Alexanian & Co., South Bend, Ind. Filed Sept. 27, 1940. Serial No. 436,412. Published Dec. 3, 1940. Class 4.

385,042. Solvent. Circo Prods. Co., Cleveland. Filed Sept. 27, 1940. Serial No. 436,420. Published Dec. 3, 1940. Class 4.

385,090. Shaving lotion. Lightfoot Schultz Co., New York. Filed Oct. 29, 1938. Serial No. 412,192. Published Dec. 3, 1940. Class 6.

385,093. Soap flakes. Hewitt Soap Co., Dayton. Filed May 27, 1939. Serial No. 419,913. Published Dec. 10, 1940. Class 4.

385,097. Dentifrice. Pro-phy-lac-tic Brush Co., Northampton, Mass. Filed Oct. 16, 1939. Serial No. 424,604. Published Dec. 10, 1940. Class 6.

385,102. Shampoo. Hibben, Hollweg & Co., Indianapolis. Filed Jan. 18, 1940. Serial No. 427,582. Published Dec. 10, 1940. Class 6.

385,111. Insecticide. Pfisterizing Co., New York. Filed May 17, 1940. Serial No. 432,047. Published Dec. 10, 1940. Class 6.

385,130. Insecticide. Dow Chemical Co., Midland, Mich. Filed Aug. 6, 1940. Serial No. 434,714. Published Dec. 3, 1940. Class 6.

385,131. Disinfectants. Clan Mfg. Co., Camden, N. J. Filed Aug. 7, 1940. Serial No. 434,739. Published Dec. 10, 1940. Class 6.

385,141. Polishing Wax. Modern Floors Mfg. Co., Washington, D. C. Filed Aug. 22, 1940. Serial No. 435,251. Published Dec. 10, 1940. Class 16.

385,148. Disinfectant. Louis Mandlak, Fort Worth, Texas. Filed Sept. 3, 1940. Serial No. 435,622. Published Dec. 3, 1940. Class 6.

385,155. Athlete's foot preparation. De-Feet Co., Wilkes-Barre, Pa. Filed Sept. 10, 1940. Serial No. 435,844. Published Dec. 10, 1940. Class 6.

385,170. Mothproof. Geigy Co., New York. Filed Sept. 20, 1940. Serial No. 436,173. Published Dec. 3, 1940. Class 6.

385,171. Mothproof. Geigy Co., New York. Filed Sept. 20, 1940. Serial No. 436,174. Published Dec. 3, 1940. Class 6.

385,198. Parasiticides. Atlas Powder Co., Wilmington, Del. Filed Oct. 1, 1940. Serial No. 436,536. Published Dec. 3, 1940. Class 6.

385,200. Soap. Great Atlantic & Pacific Tea Co., New York. Filed Oct. 3, 1940. Serial No. 436,594. Published Dec. 10, 1940. Class 4.

385,206. Rat poison. S. B. Penick & Co., New York. Filed Oct. 4, 1940. Serial No. 436,657. Published Nov. 19, 1940. Class 6.

385,209. Soap impregnated cloth. D. & B. Labs., Norwich, N. Y. Filed Oct. 7, 1940. Serial No. 436,687. Published Dec. 10, 1940. Class 4.

385,236. Insecticide. Demotex, Inc., New York. Filed Oct. 22, 1940. Serial No. 437,165. Published Dec. 3, 1940. Class 6.

385,246. Insecticide. Feco Exterminating Products, New York. Filed Oct. 26, 1940. Serial No. 437,308. Published Dec. 10, 1940. Class 6.

385,403. Paint Remover. Neville Co., Neville Island, Pa. Filed October 22, 1940. Serial No. 437,176. Published Dec. 17, 1940. Class 16.

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Type "X" fixed discharge. Capacity, one quart dry measure. One to a carton. Straps for mounting to horizontal or vertical pipe or wall. Also available with adjustable discharge and/or lock top.

Type "O" trigger releases enough for one wash at a time. Constructed of heavy brass-nickel and chrome plated. Mountings for wall or for horizontal pipe.

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In designing and building over 100,000 soap dispensers we have encountered and licked many a problem. These dispensers will help your sales. They are efficient, well-built and sturdy. Highly polished chromium plate over nickel on solid brass base. Easy to clean. Ruggedly built. Theft-proof lid. Large opening for easy refilling. Heavy, sturdy mounting brackets. Write today for prices and samples. SUGAR BEET PRODUCTS COMPANY, 300 Waller Street, Saginaw, Michigan.

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- All Grades Stearic Acid
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- Twitchell Fat-Splitting Reagents
- Twitchell Emulsifying Agents
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- Twitchell Finishing Oils (for regular or Sanforized finishes)

EMERY INDUSTRIES, INC.

CINCINNATI, OHIO

"UNIFORM QUALITY" Emery SINCE 1840

RAW MATERIAL MARKETS

As of February 26, 1941

NEW YORK—Price movements in the markets of raw materials for manufacturers of soaps and sanitary chemicals exhibited mixed trends during the past month with quiet trading conditions continuing to prevail. In the essential oil markets, price changes where they occurred were in an upward direction generally, while in the fats and oils markets, coconut oil and olive oil foots became more costly and greases, lard, corn oil, cotton oil, soy bean oil, and olive oil dropped to lower levels. Price reductions were slight, however. The decline in the prices of animal fats was unexpected and was attributed by some to a reactionary tendency in the Chicago market for live hogs.

As shown by the February review of the fats and oils situation by the U. S. Bureau of Agricultural Economics, production of fats and oils from domestic materials, totaling nearly 9 billion pounds, set a new high record in 1940. Lard, greases, tallow and linseed and soybean oils accounted for most of the gain in output over that in 1939. Total output from domestic materials in 1941, it is predicted, will probably not be greatly different from that in 1940. With reduced hog marketings, lard and grease production will be substantially smaller than a year earlier, but the reductions in these items may be about offset by increased output of vegetable and marine oils. Both imports and exports of fats and oils were reduced in 1940, stocks were increased to a new high of 3.3 billion pounds, and domestic consumption was expanded moderately to reach 9.8 billion pounds, also a new record. Marked increases occurred in the consumption of domestic fats in 1940, mainly at the expense of imported items.

The chemical market during the past month was featured by an advance of 10 cents per 100 pounds in prices for both dibasic and tribasic sodium phosphate. In the other markets of interest to the manufacturer of soap and sanitary chemicals few price changes of importance occurred. Chinese menthol was advanced somewhat as was white beeswax, while all grades of carnauba wax were reduced a few cents a pound.

Animal Fats

Greases were reduced in price by 1/8 cent per pound during the month, current prices being: house, yellow, 4 5/8 cents a pound, nominal; choice, white, 4 7/8 to 5 cents a pound, nominal. Tallow prices are the same as a month ago being currently: extra, loose, f.o.b., 4 7/8 cents a pound; and special, 4 3/4 cents a pound, nominal. Production of animal fats and oils from domestic materials for the year 1940 was higher than ever before in the history of the United States, reaching a figure estimated at 6,335 million pounds as compared to 5,862 million pounds in 1939.

Particularly in times like these with prices changing rapidly from day to day, we should like to call to the attention of our readers that the report on the raw materials markets is principally a review of developments during the past month, and that prices, due to a necessary lapse of about a week between the time the magazine goes to the printer and the time it is received by subscribers, may have changed somewhat.

Vegetable Oils

Among the vegetable oils, coconut oil was advanced toward the end of the period as shipping uncertainties became more pronounced. Sellers of coconut oil withdrew offerings and importers pointed out that they are reluctant to offer any coconut oil until they are sure it can be replaced. Copra was lately offered with buyers assuming the responsibility for obtaining ship space and even with such stipulations, sellers in the Philippines are reported not interested in moving any volume at current prices. Current coconut oil prices are in the neighborhood of 3 1/2 to 3 5/8 cents a pound, tanks, N. Y., and about 3 1/4 cents a pound, tanks, Pacific Coast. Another development toward higher prices of olive oil foots took place this period as the price of the material in drums was advanced 1/2 cent to a current level of 10 3/4 to 11 cents a pound. Denatured olive oil, however, was reduced during the period and is now quoted nominally at $2.25 a gallon, or the equivalent of almost 30 cents a pound. Soybean oil, corn oil, cottonseed oil, and linseed oil were also reduced.

Trisodium phosphate

New prices on trisodium phosphate became effective during February as a result of the steadily increasing demand which has been felt in the market for some time, according to producers. The new schedule on TSP per hundredweight, f.o.b., works, follows: carlots, $2.35; barrels, $2.55; less carlots, bags, $2.75; barrels, $2.95. Prices for delivery in

(*Turn to Page* 69)

SOAP MILLS OF LARGE PRODUCTION

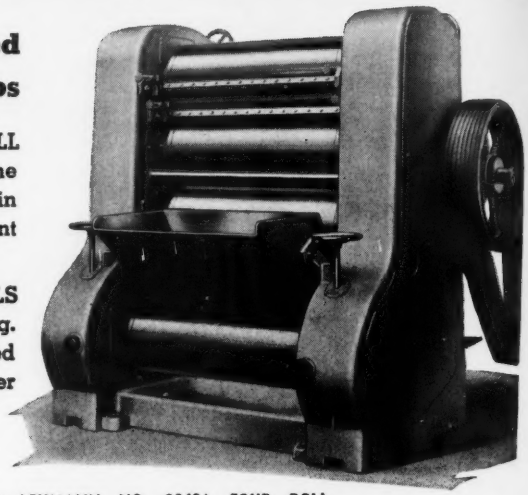
Lehmann Soap Mills Are Designed and Built to Do Many Difficult Jobs

Soap Flake Milling. The No. 912SA FIVE ROLL LEHMANN SOAP MILL (here illustrated) is a machine of large production and will give an exceptionally thin flake of uniform character and brilliant transparent appearance.

Toilet Soap Milling. LEHMANN FIVE ROLL MILLS can be arranged for automatic one operation milling. They produce the largest possible output of finest milled soap with efficient mixing. If desired the feed hopper can be arranged with two milling lanes. Can also be furnished with a *built-in intermediate plodder.*

Detailed specifications will be furnished upon request.

Demonstration by arrangement at our modern factory at Lyndhurst, New Jersey.



• **LEHMANN NO. 924SA FOUR ROLL SOAP MILL** corresponds in detail and operating features to the No. 912SA Five Roll machine shown above. It is useful for pre-milling or operating in tandem with the five-roll machine.

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PERFUME MATERIALS FOR SOAP

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Clove
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Guaiacwood
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Finished Bases

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D&O
ESTABLISHED IN 1798

RAW MATERIAL PRICES

(As of February 26, 1941)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .07½	$ .08
Acid, Boric, bbls. 99½%	ton	96.00	128.00
Cresylic, drums	gal.	.68	.70
Low boiling grade	gal.	.68	.70
Muriatic, C. P., carboys	lb.	.08	—
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, drums	lb.	.24½	.25
Anhydrous, drums	lb.	.26½	.27
Alcohol, Ethyl, U.S.P., bbls.	gal.	6.00½	6.07
Complete Denat., SD 1, dms., ex.	gal.	.30½	.35½
Alum. Potash lump, bbls.	lb.	.04	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls.	lb.	.08	—
Bentonite, 1, works, 325 mesh	ton	16.00	—
Bentonite, 2, works, 200 mesh	ton	11.00	—
Bleaching Powder, drums	100 lb.	2.00	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	1.10
L. C. L.	gal.	.73	1.20
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	16.00
Cresol, U.S.P., drums	lb.	.09¾	.10¼
Creosote Oil	gal.	.13½	.14½
Feldspar, works (200 to 325 mesh)	ton	32.00	35.00
Formaldehyde, bbls.	lb.	.05½	.06
Fullers Earth	ton	15.00	—
Glycerine, C.P., drums	lb.	.12½	.13
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.08½	.08¾
Soap, lye, drums	lb.	.07⅛	.07⅜
Hexalin, drums	lb.	.30	—
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	ton	6.25	13.00
Mercury Bichloride, kegs	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.07	.07¼
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Paradichlorbenzene, drums	lb.	.11	.13½
Petrolatum, bbls. (as to color)	lb.	.02¾	.07½
Phenol (Carbolic Acid), drums	lb.	.13	.14¾
Pine Oils, bbls.	gal.	.50	.59
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.03½	.03¾
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03⅛
Pumice Stone, powder	100 lb.	No Prices	
Rosins (net wt., ex yard, New York)—			
Grade D to H	100 lb.	2.30	2.30
Grade I to N	100 lb.	2.34	2.74
Grade WG to X	100 lb.	3.21	3.41
Wood, ex. dock	100 lb.	1.54	1.90
Rotten Stone, pwd., bbls.	lb.	—	—
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.25	.38
Olive Castile, powder	lb.	.26	.40
Powdered White, Neutral	lb.	.18½	.20
Olive Oil Foot, bars, 68-70%	lb.	.09	—
Green, U.S.P.	lb.	.08	.09
Tallow Chips, 88%	lb.	.06⅛	.06¾
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.10	1.35
Carlots, in bulk	100 lb.	.90	.95
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.70	2.95
Liquid, tanks, 47-49%	100 lb.	1.95	—
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07	.08¼
Sodium Hydrosulfite, bbls.	lb.	.16	.17
Sodium Metasilicate, ground	100 lb.	3.75	4.80
Crystalline	100 lb.	2.35	3.35
Sodium Pyrophosphate	100 lb.	5.10	5.60
Sodium Silicate, 40 deg., drum	100 lb	.80	1.20
Drums, 52 deg. wks.	100 lb	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22	.27
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.35	3.05
Zinc Oxide, lead free	lb.	.06½	.07

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06¼	Nom.
Castor, No. 1, bbls.	lb.	.10¼	.11
No. 3, bbls.	lb.	.09¾	.10¼
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03½	.03⅝
Tanks, Pacific Coast, futures	lb.	.03¼	—
Copra, bulk, coast	lb.	—	—
Corn, tanks, West	lb.	.06½	.06¾
Cottonseed, crude, tanks, mill	lb.	.05⅝	.05½
PSY, futures	lb.	.06¼	.06⅝
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.08¼	.08½
Coconut Oil, tanks, Twitchell, Chi.	lb.	.09¼	.09½
Cotton Oil, tanks, Chicago	lb.	.07	.07¼
Settled soap stock, Chicago	lb.	.02½	.02¾
Boiled soap stock, 65%, Chi.	lb.	.03½	.03¾
Foots, 50%, Chicago	lb.	.01⅜	.01⅛
Red Oil, bbls., dist. or sapon., Chi.	lb.	.07¼	.08¼
Tanks	lb.	.06¾	—
Stearic Acid, saponif., Chi.			
Double pressed	lb.	.10	.11
Triple pressed	lb.	.12¾	.13¾
Greases, choice white, tanks	lb.	.04⅞	.05
Yellow	lb.	.04⅝	—
Lard, city	lb.	.06¼	.06⅝
Linseed, raw, bbls.	lb.	.0950	.1030
Tanks, raw	lb.	.0880	.0900
Olive, denatured, bbls., N. Y.	gal.	2.25	Nom.
Foots, bbls., N. Y.	lb.	.10¾	.11
Palm, Sumatra, cif. New York, tanks	lb.	.02¼	—
Palm, kernel, shipment	lb.	No Prices	
Soya Bean, domestic, tanks, crude	lb.	.05	.05¼
Stearine, oleo, bbls.	lb.	.06	.06½
Tallow, special, f.o.b. plant	lb.	.04¾	—
City, ex. loose, f.o.b. plant	lb.	.04⅞	—
Teaseed Oil, crude	lb.	.17½	Nom.
Whale, refined	lb.	.0910	—

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DEVELOPED ESPECIALLY FOR USE IN NO RUBBING WAXES

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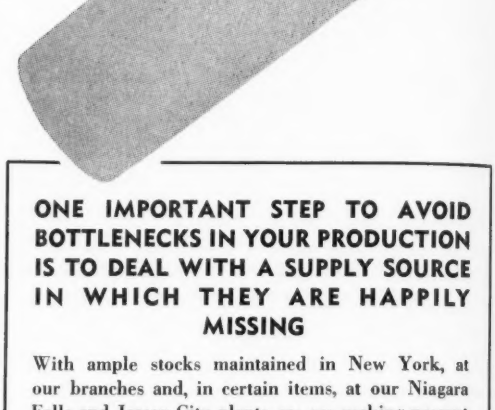

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ISCO WAXES—Carnauba, Candelilla, Beeswax, Ozokerite and Ceresines.

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(As of February 26, 1941)

Essential Oils

Almond, Bitter, U.S.P.	lb.	$3.00	$3.25
Bitter, F.F.P.A.	lb.	3.15	3.50
Sweet, cans	lb.	1.15	1.20
Anise, cans, U.S.P.	lb.	.90	.95
Bay, 55-60% phenols, cans	lb.	1.20	1.25
Bergamot, coppers	lb.	13.50	15.00
Artificial	lb.	2.25	5.00
Birch Tar, rect., cans	lb.	1.25	1.30
Crude, cans	lb.	.48	.50
Bois de Rose, Brazilian	lb.	2.00	2.10
Cayenne	lb.	—	—
Cade, cans	lb.	.39	.40
Cajeput, native, cans	lb.	.65	.70
Calamus, cans	lb.	8.25	8.50
Camphor, Sassy, drums	lb.	.22	.24½
White, drums	lb.	.22	.23
Cananga, native, cans	lb.	—	—
Rectified, cans	lb.	—	—
Caraway Seed	lb.	7.00	Nom.
Cassia, Redistilled, U.S.P.	lb.	1.85	1.90
Cedar Leaf, cans	lb.	.90	.95
Cedar Wood, light, drums	lb.	.24	.25
Citronella, Java, drums	lb.	.34	.39
Citronella, Ceylon, drums	lb.	.37	.40
Clove, U.S.P., cans	lb.	1.15	1.20
Eucalyptus, Austl., U.S.P., cans	lb.	.65	.67
Fennel, U.S.P., cans	lb.	2.05	2.15
Geranium, African, cans	lb.	12.25	Nom.
Bourbon, cans	lb.	12.00	Nom.
Turkish	lb.	3.00	3.25
Hemlock, tins	lb.	.85	.90
Lavender, 30-32% ester, cans	lb.	5.00	5.25
Spike, Spanish, cans	lb.	1.85	2.00
Lemon, Ital., U.S.P.	lb.	5.25	—
Cal.	lb.	3.25	—
Lemongrass, native, cans	lb.	.80	.85
Linaloe, Mex., cases	lb.	1.75	2.00
Nutmeg, U.S.P., cans	lb.	2.35	2.40
Orange, Sweet, W. Ind., cans	lb.	2.50	2.60
Italian cop	lb.	8.00	Nom.
Distilled	lb.	.90	—
California, expressed	lb.	2.25	—
Origanum, cans, tech.	lb.	1.05	1.45
Patchouli	lb.	4.75	5.25
Pennyroyal, dom.	lb.	3.00	Nom.
Imported	lb.	2.25	2.50
Peppermint, nat., cans	lb.	3.60	4.00
Redis., U.S.P., cans	lb.	4.05	4.25
Petitgrain, S. A., cans	lb.	1.40	1.50
Pine Needle, Siberian	lb.	1.25	1.40
Rosemary, Spanish, cans	lb.	.71	.90
drums	lb.	.63	.80
Sandalwood, E. Ind., U.S.P.	lb.	4.95	5.25
Sassafras, U.S.P.	lb.	1.00	1.25
Artificial, drums	lb.	.68	.78
Spearmint, U.S.P.	lb.	2.75	3.00
Thyme, red, U.S.P.	lb.	.80	1.75
White, U.S.P.	lb.	.95	1.95
Vetivert, Bourbon	lb.	6.50	7.00
Ylang Ylang, Bourbon	lb.	7.00	Nom.

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.60	—
Amyl Cinnamic Aldehyde	lb.	1.70	$2.00
Anethol	lb.	1.10	1.15
Benzaldehyde, tech.	lb.	.45	.50
U.S.P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.85
Citronellyl Acetate	lb.	4.00	7.00
Coumarin	lb.	2.75	3.00
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.80	.85
Eugenol, U.S.P.	lb.	1.75	2.00
Geraniol, Domestic	lb.	.60	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	3.00	3.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	lb.	32.00	34.00
Ionone	lb.	2.75	3.95
Iso-Eugenol	lb.	2.80	4.25
Linolool	lb.	2.75	3.30
Linalyl Acetate	lb.	3.20	4.25
Menthol	lb.	3.65	4.10
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.20	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.65	3.95
Ketone	lb.	3.70	4.10
Xylol	lb.	1.05	1.20
Phenylacetaldehyde	lb.	2.10	2.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.30	3.35
Rhodinol	lb.	5.50	10.90
Safrol	lb.	.85	.90
Terpineol, C. P., drs.	lb.	.25	—
Cans	lb.	.28	—
Terpinyl Acetate, 25 lb. cans	lb.	.82	.85
Thymol, U.S.P.	lb.	1.55	1.60
Vanillin, U.S.P.	lb.	2.50	2.75
Yara Yara	lb.	1.25	1.55

Insecticide Materials

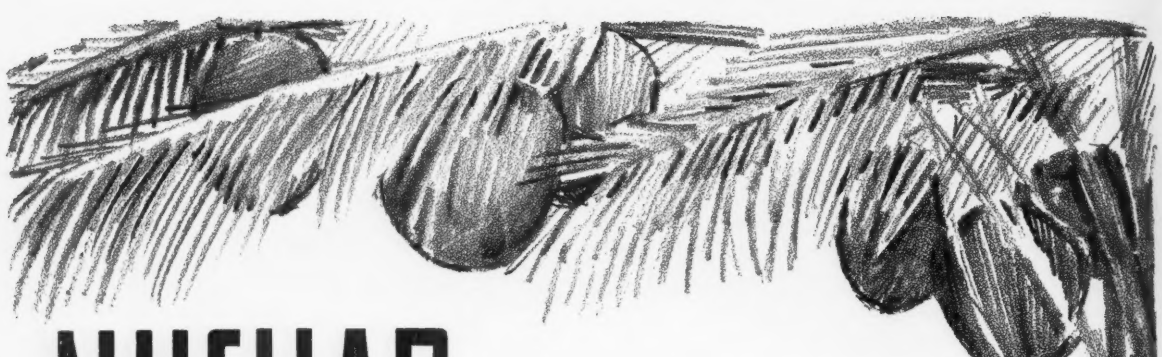
Insect Powder, bbls.	lb.	.23	.26
Pyrethrum Extract			
5 to 1	gal.	1.20	1.25
20 to 1	gal.	4.70	4.85
30 to 1	gal.	7.00	7.25
Derris, powder—4%	lb.	.18	.20
Derris, powder—5%	lb.	.21	.23
Cube, powder—4%	lb.	.16	.19
Cube, powder—5%	lb.	.19	.22
Squill, red, dried	lb.	.95	1.25
Phosphorus paste	lb.	.25	.62½

Gums

Arabic, Amb. Sts.	lb.	.14	.15
White, powdered	lb.	.18	.20
Karaya, powdered No. 1	lb.	.14	.33
Tragacanth, Aleppo, No. 1	lb.	2.75	2.85
Flake	lb.	No Prices	

Waxes

Bees, white	lb.	.38	.40
African, bgs.	lb.	.30	Nom.
Refined, yel.	lb.	.35	.36
Candelilla, bgs.	lb.	.19½	.20½
Carnauba, No. 1, yellow	lb.	.69	.70
No. 2, N. C.	lb.	.64	.65
No. 3, Chalky	lb.	.57	.58
Ceresin, yellow	lb.	.11	.14½
Paraffin, ref., 125-130	lb.	.0570	—



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¼% NUCHAR G.F.O.	20	2.3
½% NUCHAR G.F.O.	20	1.4

REFINED COCOANUT OIL

	Color Y	Color R
Unbleached	20	2.0
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¼% NUCHAR G.F.O.	10	0.8

NUCHAR

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PRODUCTION SECTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Bentonite in Soap

IN considering the industrial application of bentonite in soap making it may be well to note the properties which make bentonite a useful addition to soap. (1) Because of its colloidal structure which confers on it an enormous faculty for adsorption, the dispersing power in water of a soap containing bentonite is greater than that of soap alone. (2) Emulsifying power, an important factor in all detergent products, facilitates the saponification of the fat mixture in the soap making process. (3) Detergent power and adsorptive properties due to the negative polarity of the bentonite molecule permit a rapid attachment or withdrawal of particles of carbon (representing soot), and other impure substances having an electropositive charge. (4) Softening power, resulting from base-exchange properties, promotes resistance toward waters containing calcium, with a corresponding increase in soap economy. (5) Bentonite in soap reduces the content of free alkali, thereby diminishing the irritating effect of alkali on the skin.[1]

Italian bentonite from Ponza was used in experimental work but this has much the same properties as Wyoming bentonite. Preparation of an emulsion is very easy provided the bentonite is in finely divided form and the water is first warmed to about 80°C., emulsification then being five times more rapid than in cold water (18°C.). Pastes are formed with a proportion of 1 part of bentonite to 6 or 7 parts of water; with a greater proportion of water liquid emulsions result.

The presence of ionizing compounds in the water has a profound effect on the viscosity of the emulsion, carbonates, metasilicates, chlorides, etc., all having a characteristic action on viscosity and on the dispersing power of the aqueous suspension of bentonite. Bentonite added to brine precipitates as white granules, thus losing all virtue as a colloid and having about the same effect as an addition of talc.[2] Caustic soda and potash, as well as strong acids, in concentrated solutions, destroy the properties of bentonite. Silica, talc, and organic compounds such as alcohol and glycerine, have no effect and can be incorporated in bentonite suspensions.

The order in which ionizing compounds, bentonite and water are mixed is of great importance. If 10 grams of bentonite are added to milk of lime containing 5 grams of lime in 200 grams of water, a poor dispersion results. If on the other hand, one has a very thick gel of bentonite, the same quantity of slaked lime can be added to the suspension of bentonite in water.

Maximum viscosity is obtained by adding the ionizing compound to the suspension of bentonite in water. An excess of the ionogen causes a partial flocculation of the bentonite. If bentonite is added to water containing a small amount of ionogen, a more or less thick gel results; if a large amount of ionogen or salt is dissolved in the water and bentonite added, no gel formation occurs. The conclusion to be drawn is that a soap to which bentonite is added should not contain more than the average amount of free caustic or of salt.

Bentonite should never be added in the dry form to soap, for example in the crutcher, as it would then fail to confer the "bentonite qualities" to the soap. The best method is to add a warm paste of bentonite and water to the molten soap.

The mixing of bentonite with soap is carried out warm, at about 90°C. To produce homogeneity, the bentonite is added as a thick milk. Such a milk will turn to a gel on standing but with agitation this thixotropic gel changes back to a liquid, a property which facilitates mixing. In order to have it free of lumps, the milk of bentonite is prepared at least 24 hours in advance. The prep-

[1] F. Gruber. *Bull. des Matieres Grasses* 24, 128-31 (1940).

[2] G. de Belsunce. *Bull. des Matieres Grasses* 24, 126-7 (1940).

aration is made preferably warm, with the desired quantity of bentonite added little by little, if possible through a sieve, to a part of the water. The rest of the water is added with stirring. The last of the water added is a salt solution containing the amount of salt desired to give a final dilute solution.

According to its quality, bentonite absorbs more or less water. One part of bentonite will take up 2 to 6 parts of water to give a milk of a convenient consistency. In some places bentonite is used as a soap filler rather than as a soap builder, the proportion to be used thus depending on its purpose.

In grained soap, the bentonite paste is worked into the molten soap. It cannot be added before saponification. In making soap by the semiboiled method the milk of bentonite can be mixed with the melted fat charge before addition of the alkali. The emulsifying effect of the bentonite on the fat facilitates saponification, making it more rapid than usual.

In making soft soap or liquid soap the milk of bentonite is mixed with the fat charge. Soaps containing cyclohexanol or trichloroethylene are benefitted by the inclusion of bentonite.[3] Not only is detergency increased but the clay helps prevent the separation of the organic solvent. A good formula for this type of product is 10 per cent bentonite, 20 per cent cyclohexanol, and 70 per cent of soft soap.

Up to 40 per cent of bentonite can be incorporated in semiboiled or soft soap. For toilet soap the proportion is about 7-10 per cent. Experiments showed that as little as 3-5 per cent of bentonite will improve the properties of soap but this quantity is too small to effect much of a saving in fatty acid content. Bentonite was found to increase the lathering power of soap.

As the result of several laboratory and industrial tests, it was concluded that bentonite was not an inert charge in soap but an active ingredient which considerably improves the quality of the soap. Washing experiments made under identical conditions with pure soap on the one hand and bentonite soap on the other, were conclusively in favor of the latter. It is believed that this new soap-making technique will not only result in improved quality in soap, but also in a substantial saving of fats.

[3] G. de Belsunce. *Bull. des Matieres Grasses* 24, 120-123 (1940).

Solubilizing Agents

Insoluble materials will dissolve in dilute aqueous solutions of solubilizers or detergents to form stable colloidal solutions as distinguished from mere suspensions or emulsions. Such solubilizing effects also occur in nonaqueous solvents. An example is the dissolving of methylene blue in a toluene solution of sodium oleate on warming, to give a red color. Upon cooling, this becomes a blue jelly, and if placed in contact with water, gives a striking display of spontaneous emulsification.

Based on over 200 qualitative observations it would appear possible to solubilize almost any material in almost any solvent. Strict proof that such solubilization is possible would be of great scientific as well as technical significance. J. W. McBain, R. C. Merrill, Jr., and J. R. Vinograd. *J. Am. Chem. Soc.* **62,** 2880-1 (1940).

Pure Soap Studies

Pure sodium soaps of capric to stearic acids were used in studying the influence of the length of the chain on various properties. Wetting power as determined by measuring the Herbig number with 0.25 per cent solutions of soap, increased to a maximum up to C_{14} (sodium myristate), and then began to decrease. With 0.1 and 0.05 per cent solutions the values increased up to C_{12} (sodium laurate), and then began to decrease. Wetting power as measured in terms of sinking time by the Draves test increased up to C_{14} for 0.1 per cent concentration, and up to C_{12} for 0.05 per cent concentration. Interfacial tension as measured by drop numbers against kerosene increased at all three concentrations up to C_{16}, then diminished. G. V. Shirolkar and K. Venkataraman. *J. Soc. Dyers & Colourists*, **56,** 503-8 (1940).

Preserving Shampoos

Products made with triethanolamine should be protected against attack by bacteria and other microorganisms. A useful agent in this respect is parachlorobenzoic acid, used in the proportion of 0.1-0.15 per cent. Examples of formulas for shampoos and shaving soaps follow:

	Shampoos	
1.	Coconut oil fatty acids	42 g.
	Castor oil fatty acids	11
	Triethanolamine	28
	Triethylene glycol	24
	p-Chlorobenzoic acid	0.2
		Parts
2.	Coconut oil fatty acids	32
	Olein	14
	Triethanolamine	25
	p-Chlorobenzoic acid	0.1
	Distilled water	32

If the product is boiled the preservative should be added after the boiling. It can then be heated to 65° C. if desired.

SHAVING CREAMS

	Lathering	
1.	Stearic acid	15 g.
	Lanolin	4
	Triethanolamine	1
	p-Chlorobenzoic acid	0.1
	Water to make a soft cream	
	Non-lathering	*Parts*
2.	Stearic acid	60
	Lanolin	10
	Triethanolamine	1.5
	Distilled water	138
	Alcohol	4
	p-Chlorobenzoic acid	0.1

When the product contains water the preservative is mixed with water to a paste and then added with stirring. E. Belani. *Fette und Seifen* **47,** 542-3 (1940).

Soap in Wood Finishing

Wet sanding in connection with wood finishing, is greatly facilitated if a handful of neutral soap flakes is dissolved in a 4-gallon pail of hot water and the mixture used as the lubricant for the abrasive, instead of plain water. The wiping-up operation removes any traces of the thin soap solution, so that no interference with succeeding coats is experienced. *Industrial Finishing* **7,** 16 (1940); through J. M. Vallance. *Soap, Perfumery & Cosmetics* **13,** 849-50 (1940).

Perfume Changes in Soaps

PERFUMES have often been known to influence both the appearance and the stability of toilet soap. These two effects, that is, color change, and rancidity development, are not interdependent, but may be caused by quite different constituents in the perfume. Odor compounds such as some aldehydes and esters, which are not resistant to alkali, should be avoided. Examples of these are benzaldehyde and cinnamic aldehyde, the former being easily converted to benzoic acid, the latter to cinnamic acid, which is a typical unsaturated acid. Cinnamic aldehyde is sold commercially as synthetic cassia.

Anthranilic acid ester, eugenol, isoeugenol, indole, menthol, anise aldehyde, thymol and vanillin are not resistant to alkali and tend to produce a brown color in soap by reaction with it, the change being the more rapid, the greater the alkalinity. Piperonal and natural cassia produce a marked yellowing. Citral, citronellal, coumarin, cinnamic aldehyde, diphenyl methane, tolu balsam, jasmine oil, and *beta*-naphthol ether produce a faint yellow tone.

Most of the aliphatic alcohols are alkali-resistant, as well as alcohols of the terpene series, examples being geraniol, citronellol, phenyl ethyl alcohol, and linalool,—menthol being an exception. Also alkali-resistant are ketone and phenol ether odorants such as ionone, bromostyrol, methyl acetophenone, safrol, isosafrol, *alpha*-naphthol ether, diphenyl ether and benzyl methyl ether.

Of greater importance is the influence of odorants on the stability of soap. Aliphatic alcohols such as linalool and geraniol have a slight catalytic effect on auto-oxidation, although citronellol is indifferent. *Alpha*-Ionone, an unsaturated ketone, strongly promotes oxidation. Aromatic alcohols such as benzyl alcohol and *beta*-phenyl alcohol accelerate oxidation. Aromatic aldehydes such as benzaldehyde, cinnamic aldehyde and anise aldehyde show a strongly oxidative influence; as do also aromatic ketones such as acetophenone and benzophenone. Terpene ketones are inactive. H. J. Henk. *Fette und Seifen* **47,** 537-8 (1940).

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Dye and Detergent Aids

Cationic dye auxiliaries accelerate dyeing and are as potent surface-active agents as the more common anionic agents. Stearyl or cetyl pyridinium bromide have potent emulsifying and potential detergent properties, the active part of the compound being positively charged, in contrast to soap. Wool, amphoteric in nature, becomes cationic in acid solution and in consequence can be cleaned with these cationic detergents, which exhibit their maximum effectiveness in acid solution. Laboratory tests have yielded very promising results in the simultaneous dyeing and scouring of woolen materials under acidic conditions.

One of the most unexpected properties of the cationic auxiliaries is their antiseptic action, which is combined with the favorable properties of being little more toxic than soap, and of being as mild in action on the skin as a fatty alcohol sulfate. These agents rival mercury and silver salts in bactericidal properties. The reason for this can be traced in part to the cationic nature, since most micro-organisms are anionic colloids. H. H. Mosher. *Am. Dyestuff Reporter* **30,** P32-8 (1941).

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Rancidity Prevention

Unsaturated fatty acids are attacked by oxygen in the air at the double bond to start auto-oxidative processes. Unstable compounds are formed of the type of peroxides, which are themselves strong oxidizing agents. Through further reaction with oxygen and with the intermediate peroxides, further decomposition results with the formation of carbon dioxide, formaldehyde, and various low molecular weight organic acids. With the formation of water appear aldehydes, ketones, especially methyl ketone, oxyacids, dioxyacids, keto acids, and epihydrine aldehyde. The more noticeable changes in rancid fats and oils, such as bad odor and taste, arise from the formation of heptyl aldehyde, which is very strong in these properties. Hydroquinone appears to be one of the best antioxidants, aside from those which naturally occur in fats but which are removed in the refining process. Hans J. Henk. *Deutsche Parfümerie-Z.* **26,** 229-31 (1940).

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Soap Substitutes in Germany

Washing agents for household and laundry are a serious problem in Germany. Soap chips have largely been replaced since the beginning of the war. Many of the substitutes are high in alkali, attack linen and rayon noticeably, yellow cotton, and leave a high ash in the washed goods. Powdered washing agents are based largely on soda with small additions of wetting and foaming agents from the textile-agent class, sodium silicate, and sodium sulfate or other inert filling materials. Paste products are based on fatty substances low in fatty-acid content, with additions of gel-forming substances such as methyl cellulose or starch, a disinfectant and an odorant. The water content of the paste is usually 50-70 per cent. None of the various products have proved satisfactory in terms of results. O. Viertel. *Fette und Seifen* **47,** 339-341 (1940).

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Fat in Wool Washings

To determine the amount of fat in wool washings, usually 1-2 per cent, first dissolve proteins with ammonia and alcohol and then extract the fat. To 10 grams of wash water add 1 cc. of ammonia (sp. gr. 0.96), and 10 cc. of alcohol, and shake well to dissolve the proteins. Add 25 cc. of ether, shake and let separate. Add 25 cc. of petroleum ether, mix and let stand at least six hours. A clear layer containing the fat rises to the

top. Transfer the fat layer to a tared flask, washing the aqueous solution twice with 25 cc. each of ether and add to the other ether extract. Distill off the ether and dry the fat for two hours at 100° C. Weigh. The weight of the fat by 10 is the fat content of the wash liquor in per cent.

Fat can be recovered from wool wash liquors my means of the general type of centrifuge used for milk separators, with a yield of 60-70 per cent. P. Steinacker. *Fette und Seifen* **47,** 535-7 (1940).

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Unsaponifiable Matter

Unsaponifiable matter determined directly in sulfated oils containing higher alcohols is much lower than the amount calculated from unsaponifiable matter in the non-sulfated oil, probably because these alcohols form sulfuric esters that are not estimated by petroleum ether or ethyl ether. If the oil is decomposed previous to saponifying by boiling with *Normal* Sulfuric acid as in Hart's method for combined SO_3, the unsaponifiable matter recovered on subsequent saponification is only slightly lower than that of the original oil. D. Burton and G. F. Robertshaw. J. Intern. Soc. Leather Trades' Chem. **24,** 293-8 (1940).

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Thiocyanogen Values

The thiocyanogen values obtained with 0.2 *Normal* reagent, using 150-200 per cent excess and 24 hours' contact, of linoleic and linolenic acids are respectively 95.9 and 162.5. Both values differ from those originally postulated by Kaufmann (90.7 and 182.7 respectively), but accord well with recent data published by other workers. It is recommended that agreed empirically determined values obtained under carefully prescribed conditions should replace the hitherto accepted "theoretical" thiocyanogen values of linoleic and linolenic compounds, but that extensive revision of already published data should be deferred until general agreement has been reached as to the precise values and conditions of determination. T. P. Hilditch and K. S. Murti. *Analyst* **65,** 437-46 (1940).

Anhydrous Soap Determination

A simple volumetric method for determining anhydrous soap is as follows: Weigh in a special tared test bottle a 3.5-5 gram sample of soap to the nearest milligram. The special bottle has a long narrow neck calibrated to a total of 4 cc. and graduated in 0.1 cc. Add about 5 cc. (an excess) of 37 per cent hydrochloric acid to the sample in the bottle and place in a water bath until the fatty acids clarify. Twirling the bottle prevents carbonates from foaming over after addition of acid. C. P. glycerine at 110-115° C. is added from a wash bottle until the fatty acids are brought into the graduated portion of the neck. The test bottle is centrifuged for a few seconds and then placed in the boiling water bath with the water level above the column of fatty acids. After 10-15 minutes the test bottle is partially withdrawn to allow the reading of the upper meniscus of the fatty acids, then the bottle is completely withdrawn to allow reading the lower meniscus. The observed volume of fatty acids multiplied by the correction factor of the test bottle gives the actual volume at 100°C./4°C.

$$\text{Weight of Anhydrous soap} = A \times B \times K$$

where A = volume of fatty acids at 100°/4°C.

B = specific gravity of fatty acids at 100°/4°C.

K = the soap-equivalent factor of fatty acids.

The soap-equivalent factor is calculated as the amount of sodium soap produced from 1 gram of the fatty acids, e.g. 1 gram of tallow fatty acids is equivalent to 1.082 grams of sodium soap of these fatty acids. The value of B x K for straight tallow soaps is 0.902; for 65 parts of tallow to 35 parts of coconut oil it is 0.909; and for equal parts of tallow and coconut oil it is 0.912.

The method takes less than half an hour and is accurate to about five parts per thousand. Results agree well with those obtained by simultaneous analyses made by the official ether-extraction method. The simpler method is well suited to process control. William J. Govan, Jr. *Oil & Soap* **17,** 262-3 (1940).

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Methyl Cellulose in Soaps

A filling material for soap prepared by the semi-boiled process is made from a mixture of a 4 per cent methyl cellulose solution and 38° Be. sodium silicate solution. The methyl cellulose and silicate are mixed in the proportion of 2:3, respectively. *Seifensieder-Ztg.* **67,** 423 (1940).

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General Detergent

A solid detergent in bar form suitable for various uses contains sodium dodecylsulfate, sodium sulfate and as a binder, sodium starch glycolate. Robert W. Maxwell, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,202,741.

Laundering Woolens

Definite requirements must be met by laundries given military contracts in Canada. In washing woolen or part-woolen garments and blankets, the water used must be softened to not more than five grains of hardness per gallon. Neutral laundry soap is to be used with no alkaline builder, and is added to the wheel as a liquid soap stock. A laundry formula for this type of work is given in the table below:

The last rinse subjects the materials to a sterilization treatment. The concentration of Chloramine-T should give a solution containing 100 parts per million of active chlorine. *Laundry and Dry Cleaning J. of Canada*, September, 1940.

Operation	*Supplies*	*Temperature in °F.*	*Time in Minutes*
Suds—	Soap to give heavy suds	90-100	10
Suds—	Soap to give heavy suds	90-100	10
Rinse—	Water	90-100	3
Rinse—	Water	90-100	3
Rinse—	Water plus Chloramine-T	90-100	3

PRODUCTS AND PROCESSES

Cellulose Sulfonate in Soap

A soap additive consists of cellulose sulfonate, prepared according to British Patent No. 485,649. Fifty parts of chlorosulfonic acid are added gradually to 125 parts of anhydrous pyridine, the mixture being well cooled, after which 8 parts of dry cotton are introduced. The mixture is allowed to react for 8 days, and is then transferred to 600 parts of ice-cold water. After the solution has been filtered it is stirred into alcohol, which precipitates the sulfonate. This is filtered off, dried and neutralized with caustic soda, then again poured into alcohol. A water-soluble, white fibrous powder is precipitated which is suitable for admixture with other detergents to give active, good foaming, washing solutions. *Manufacturing Chemist*, **11,** 312 (1940).

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Foaming Bath Powder

A foaming bath powder is one containing a mixture of acid and alkaline ingredients which react to produce carbon dioxide. It is very important that they be kept dry in the package so that preliminary reaction does not occur. A formula for such a product is:

	Parts
Sodium bicarbonate	100
Tartaric acid	80
Starch	20
Saponin	3

Sometimes the alkaline (bicarbonate) and acid (tartaric acid) ingredients are packed separately, to be mixed when used. *Seifensieder-Ztg.* **67,** 482 (1940).

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Dry-cleaning Soap

A soap for dry cleaning consists of a saponified fatty acid, an oil carrier in sufficient quantity to make the soap soluble in naphtha and to render it at least plastic at normal temperatures, and an inert adsorbent material such as diatomaceous earth. The ingredients are lightly ground together, with the inert adsorbent present in sufficient proportion to give a final powdered product. Keystone Aniline & Chemical Co. Canadian Patent No. 393,953.

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Ammonia Soap

Soap can be made very simply from stearic acid and ammonia. The stearic acid is melted and the ammonia stirred in slowly at 80-90° C. One kilogram of stearic acid requires 252 grams of ammonia, sp. gr. 0.91. A small excess of ammonia is always used. *Seifensieder-Ztg.* **67,** 482 (1940).

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Perspiration Checker

If perspiration on workmen's hands soils the product being made, they can use "Ply No. 9" after washing. It is a colorless solution made by Milburn Co. of Detroit, which dries quickly, forming an invisible film which keeps perspiration in check.

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Shampoo Hair Dyes

In spite of criticisms of paraphenylenediamine and allied compounds for dyeing hair, these materials appear to have come to stay because of the good results obtained when they can be used. Shampoo dyes are enjoying considerable popularity. These products consist essentially of dyestuffs of the "para" type in alkaline solution, together with a wetting agent which may be soap or a synthetic such as sodium lauryl sulfate.

According to British Patent No. 524,293, the dyestuff plus alkali is incorporated in a soap cake. For example, 80 grams of *para*-aminophenol are mixed with 75 grams of soda ash and 100 grams of the methyl tauride of oleic acid, the mixture being converted into a paste with 75 grams of water. This paste is milled with 675 grams of toilet soap chips with a fatty acid content of 75-80 per cent. The homogeneous product after milling, is plodded and cut to shape. Dipped in a 2 per cent solution of hydrogen peroxide and applied by rubbing on the hair, the product is stated to give a reddish brown shade. Other tints can be produced. *Manufacturing Chemist*, **11,** 303 (1940).

—— ♦ ——

Soap Free from Cracks

Milled soap is forced through a perforated plate in special apparatus into an evacuated chamber to remove air and other gases. It is then plodded while kept under vacuum, to produce soap free from striations. Colgate-Palmolive-Peet Co. British Patent No. 512,551.

—— ♦ ——

New Synthetic Detergent

A recently developed synthetic detergent, Dianol D, is offered by the Quaker Chem. Prods. Corp., Conshohocken, Penna. A combination of sulfonated compounds and high molecular-weight aldehyde condensates, it is claimed to possess excellent detergent properties combined with wetting, leveling, and penetrating action. The product is stable in the presence of acid, alkali, or lime salts.

—— ♦ ——

Adsorbent Cleaner

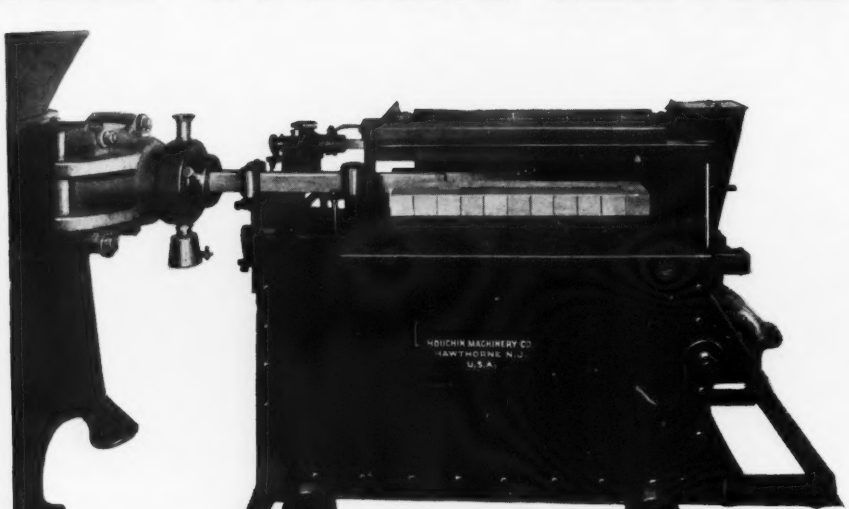
A powder for removing spots which cleans by adsorption contains at least 30 per cent of "synthetic alumina" in the adsorbent form, mixed with powdered "synthetic zeolite," fuller's earth, diatomaceous earth, gelatinous silica or hydrous aluminum silicate. U. C. Tainton. U. S. Patent No. 2,213,641.

—— ♦ ——

Micro Fat Determination

Micro methods, particularly useful in biological fat studies, have been developed for the determination of total fat and lipoids, unsaponifiable matter, phosphatides and sterines. These methods require samples of the order of 20-200 mg., depending on the fat content. G. Gorbach. *Fette und Seifen* **47,** 499-506 (1940).

FOR TWENTY-FOUR-HOURS-A-DAY SOAP CUTTING SERVICE



Use the HOUCHIN Improved Automatic Power Bar and Cake Cutter No. 94A

Built with strong parts at every point where continuous operation might add to stress. One or two bars can be cut at one time.

•

Will cut 3,000 pounds of soap an hour on a twenty-four-hours-a-day schedule.

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SPECIFICATIONS
Net Weight 1,200 lbs.—Floor space required 4' x 5'
Gross Weight 1,500 lbs.—1 H. P. motor included

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One of a Full Line of Soap Machines
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NEW PATENTS

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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,224,986, Fatty Acid Treatment, patented December 17, 1940 by Ralph H. Potts, La Grange, and John E. McKee, Western Springs, Ill., assignors to Armour and Company, Chicago, Ill. A process of treating oleaginous materials containing free fatty acids comprising vaporizing volatile constituents of said materials in the presence of steam to thereby form a vaporous mixture including fatty acids and steam, passing said vaporous mixture into a zone containing previously condensed fatty acids where said vaporous mixture comes into contact with said condensed fatty acids, passing liquid fatty acids from said zone into indirect heat exchange relation to a cooling fluid to maintain the liquid fatty acids in said zone at a temperature below the condensation temperature of said vaporous fatty acids and above the condensation temperature of said steam whereby to condense said vaporous fatty acids in said zone and to pass said steam from said zone in vaporous form, and recovering liquid fatty acids from said zone.

No. 2,225,619, Insecticidal Composition, patented December 24, 1940 by Edgar C. Britton and Frank B. Smith, Midland, Michigan, assignors to The Dow Chemical Company, Midland, Michigan. An insecticidal and fungicidal composition comprising as a toxic ingredient a cyclohexylamine salt having the formula

$(C_6H_{11-m}R_m-)_nNH_{4-n}-O-X$

wherein m and n are integers not greater than 2, R represents a member of the group consisting of hydrogen, halogen, aryl, aralkyl, cycloalkyl, and those alkyl radicals containing from 1 to 8 carbon atoms, inclusive, and —O—X represents a substituted phenoxy radical derived from a phenol characterized by nuclear-substituted nitro groups in the para-position and in one of the positions ortho- to the hydroxyl radical.

No. 2,227,496, Insecticidal Composition, patented January 7, 1941 by Hubert G. Guy, Newark, Del., assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. A composition of matter selected from the group consisting of rotenone and pyrethrum insecticides having incorporated therein a thiuram sulfide.

No. 2,228,096, Insecticidal Composition, patented January 7, 1941 by Lionel E. Tisdale, Orlando, Fla., assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. As an insecticidal dusting composition an aggregate of uniformly distributed particles of ground tobacco stems having a nicotine content not substantially greater than 1.25 per cent and bentonite in proportions such that a relatively small amount of the ground tobacco stems is dispersed in and throughout the latter, and dodecyl thiocyanate wholly absorbed and impregnating the particles of the tobacco dust whereby isolated regions of dimensions equivalent to the particle size of the finely ground tobacco stems and containing concentrations of dodecyl thiocyanate substantially higher than the average concentration for the composition as a whole are distributed throughout the dusting composition.

No. 2,228,993, Deodorant, patented January 14, 1941 by Arthur W. Goldstein, Cincinnati, Ohio, assignor of 16 per cent to Leon Goldberg, 16 per cent to Albert A. Yungblut, and 16 per cent to Charles E. Howard, all of Cincinnati, Ohio. A composition of matter which is relatively non-volatile and which includes the major portion of benzyl alcohol and lesser portions of gum resin, aldehyde and essential oil, and phenyl ethyl alcohol, which components are blended together enabling the composition to destroy odors in air when the composition is ejected in air containing odors.

Form Diamond Alkali Texas Co.

Diamond Alkali Co. of Texas, a subsidiary of Diamond Alkali Co., Pittsburgh, was incorporated recently to manufacture and distribute silicate of soda and other alkalies and chemicals in Texas. The new company has taken over Gulf Coast Chemical Co., Houston, and will operate it as a division. The main office of Gulf Coast Chemical division will be maintained in Houston and branch offices will be maintained in Dallas and other cities. Construction of a new plant in Dallas is expected to be completed and operations commenced in August, this year.

Mathieson Official Dies

Edward M. Murray, 48, district manager of Mathieson Alkali Chemical Co., with headquarters in Charlotte, N. C., died suddenly February 22 in Jacksonville, Fla., where he was vacationing with Mrs. Murray.

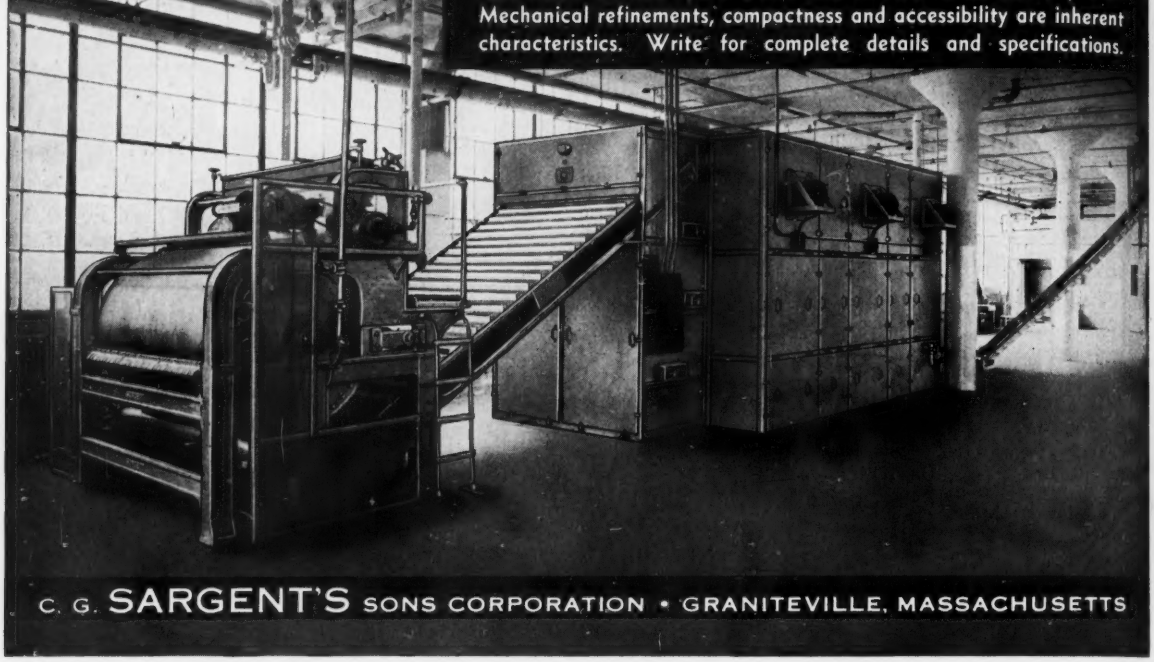
Market Report

(*From Page* 57)

the N. Y. metropolitan area are $2.45 per cwt., bags, in lots of five tons or more, and in barrels, $2.65. Smaller lots are quoted at $3.05 in barrels and $2.90 in bags.

Essential Oils

Among the essential oils now at higher levels than a month ago are the following: peppermint oil, which was advanced 60 cents to a level of $3.60 for the natural product in cans, and to $4.05 for the redistilled item in cans; spearmint oil, which was advanced to $2.75 to $3.00 a pound; sweet almond oil, which was advanced 20 cents a pound to a level of $1.15 to $1.20 a pound; oil of birchtar, which was advanced 11 cents a pound for the crude material to a level of 48 to 50 cents a pound in cans and 15 cents for the rectified material to a level of $1.25 a pound in cans; caraway seed oil, which was advanced $1.00 a pound to a level of $7.00 a pound; oil of cassia, which was advanced to $1.85 a pound; oil of lemongrass, which was advanced 2 cents to a level of 80 to 85 cents a pound; oil of anise, which was advanced to 90 cents a pound; and California orange oil, which was advanced 25 cents a pound to a price of $2.25 a pound. The sole exception to the upward trend among the essential oils for soaps and sanitary chemicals was patchouli, which was reduced 50 cents a pound to a current price of $4.75 to $5.25.



SARGENT'S DRYER and CHILLING ROLL

One of the latest Sargent installations, a unit capable of delivering 1300 pounds of extremely thin soap chips in 40 feet. Economy of operation and floor space are distinct features of this equipment. Mechanical refinements, compactness and accessibility are inherent characteristics. Write for complete details and specifications.

C. G. SARGENT'S SONS CORPORATION • GRANITEVILLE, MASSACHUSETTS

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SOAP PRODUCTS AND SANITATION CHEMICALS
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MANUFACTURERS
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SOAP POWDERS (Bulk and Package)
SOAP PRODUCTS
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DISHWASHING COMPOUNDS
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EASTON, PA.

NEW EQUIPMENT

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

792—Coal Tar Derivatives

The tar and chemical division of Koppers Company, Pittsburgh, has recently issued a series of bulletins dealing with its line of coal tar derivatives which find commercial application in the manufacture of soaps, disinfectants and sanitary chemicals. "Koppers Tar Acids," discusses the use of acids from coal tar in the manufacture of disinfectants, cresylic hand acid soaps and paint and varnish removers. "Koppers Coal Tar Solvents," covers the benzol-toluol-xylol family of solvents and their use in furniture and metal polishes, floor waxes, shoe polishes and solvent extraction. A discussion of moth prevention is included in "White Tar Refined Naphthalene," and the use of naphthalene in insecticides and fungicides. "Koppers Crude Naphthalene," mentions its use in the preparation of Twitchell's Reagent and as a soil insecticide. "Koppers Kolineum," describes the uses of kolineum, a highly refined creosote, as a wood preservative, an insecticide and weed killer, while "Koppers Tar Acid Oils," describes tar acid oils in the manufacture of disinfectants, insecticides and in cleaning automobile engines. Specifications and physical properties are given for each class of product.

793—Protective Drum Linings

A new brochure, "Facts About Protective Drum Linings for Steel Containers," recently published by Ault & Wiborg Corp., subsidiary of Interchemical Corp., New York, contains a study of the various types of lacquer linings used to protect soap and other materials from contamination or deterioration through contact with the steel container in which they are shipped. Tables of laboratory data and recommendations are included.

794—Aptitude Testing

The advantages of pretesting employees by means of comprehensive and intelligent tests for measuring ability, aptitude and personality characteristics are covered in a 16-page bulletin, "The Use of Ability and Aptitude Testing in Business," just published by Personnel Institute, Inc., Chicago.

795—Marine Animal Oils

Fisheries Research Board of Canada, Toronto 5, Canada, has just published a new volume, bulletin No. 59, entitled "The Chemistry and Technology of Marine Animal Oils with Particular Reference to Those of Canada," designed for industrial users. A comprehensive study of the subject, the new 444-page bulletin is being distributed through sale only.

796—Abietic Acid Resins

A new booklet entitled "Hercolyn and Abalyn, Liquid Resins of Abietic Acid" has just been issued by Hercules Powder Co., Wilmington, Del. Among their other industrial uses are mentioned their use in the production of floor waxes and for improving the water resistance of self-polishing waxes to which they are adapted, it is said, by virtue of their low vapor pressure, wide range of solubility, compatibility and high refractive index. Data on properties and characteristics are given as well as typical emulsion formulations.

797—Mixing Equipment

Descriptions and illustrations of electrical fluid mixers in all sizes and types ranging from 1/1000 H.P. to 25 H.P. are included in a new 24-page catalog of mixing equipment just issued by Eastern Engineering Co., New Haven, Conn. One section is devoted to engineering data on the selection and adoption of mixing machinery, while another covers related subjects such as pumps and temperature controls.

798—Wood Preservative

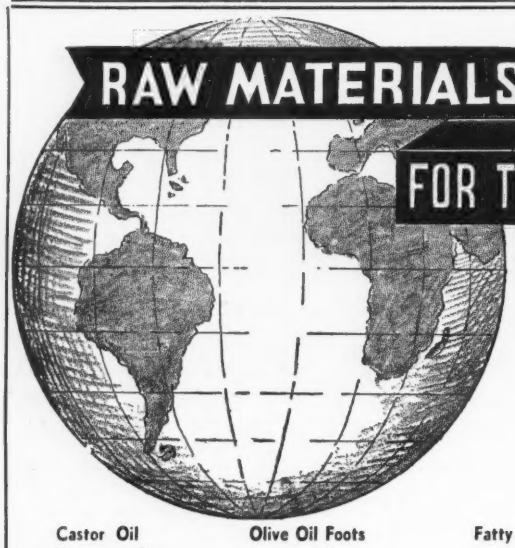
A bulletin recently released by Dow Chemical Co., Midland, Mich., covers the use of pentachlorphenol, "Dowicide VII," as a preservative for protecting wood against destruction by termites and fungi. According to Dow technicians, tests conducted over a period of five years in which treated sections of wood were buried in infested soil indicates that the product gives complete protection under the conditions of the tests, is economical and does not affect the appearance or handling properties of the wood.

799—Monel Doctor Blades

By replacing English razor steel doctor blades with heat-treatable "K" Monel blades on the drying rolls in a large soap manufacturing plant, production was boosted 3,750 pounds a week, it is reported in a recent bulletin from International Nickel Co., New York. Whereas with the old blades it was necessary to halt production for ten minutes during every eight-hour shift while blades were honed, when the "K" Monel blades were installed, shut-downs for honing became necessary only every 99 hours, it is said.

800—Transparent Packaging

A new folder entitled "The A B C of the Transwrap Package" issued by Stokes & Smith Co., Philadelphia, emphasizes the uses of transparent packages in merchandising, for displays, as liners and for numerous other purposes. Manufacturers are solicited to send samples of their products for trial wrapping and estimates of approximate cost.



RAW MATERIALS 1838-1941

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Castor Oil	Olive Oil Foots	Fatty Acids	Grease	Modified Soda
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Cottonseed Oil	Rapeseed Oil	Oleo Stearine	Soda Ash	Tri Sodium Phosphate
Palm Oil	Sesame Oil	Stearic Acid	Caustic Potash	Di Sodium Phosphate
Palm Kernel Oil	Soya Bean Oil	White Olein	Carbonate Potash	Chlorphyll
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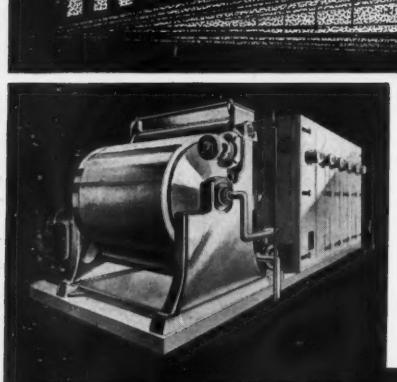


In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog, that is yours for the asking.

PROCTOR & SCHWARTZ · INC · PHILADELPHIA

NEW PROCTOR *Flake Soap* SYSTEM

Germicidal Soaps

(*From Page 37*)

containing rosin will give, when used for washing the hands, dishes, or in the home laundry, involves factors which cannot be accurately evaluated from test tube experiments.

A more complete investigation of the specificities of the soaps of rosin and individual rosin acids for different organisms might reveal special uses for some of these products.

Conclusions

The following conclusions were drawn from the results of this study against *Staphylococcus aureus, Escherichia coli,* and *Eberthella typhi.*

Rosin soap solutions were more active as germicides than equivalent concentrations of fatty acid soap solutions.

Mixtures of rosin soaps and fatty acid soaps were germicidally more active than the corresponding fatty acid soaps.

Soaps made from rosins produced from longleaf pine gum and slash pine gum, respectively, had equivalent germicidal activity.

Oxidation of the unstable rosin acids reduced the germicidal activity of the resulting rosin soap.

Soaps made from pyroabietic acid prepared as described were more active as germicides than soaps made from gum rosins.

The sodium soaps of tetrahydro-, dihydro-, and freshly prepared abietic acids were more active as germicides than soaps made from gum rosins.

Coconut oil soap was germicidally more active against *Escherichia coli* and *Eberthella typhi* than other soaps made from natural fats and oils. Against these two test organisms coconut oil soap had an activity equivalent to that of a normal gum rosin soap. Rosin soap was much more active germicidally than coconut oil soap when *Staphylococcus aureus* was used as the test organism.

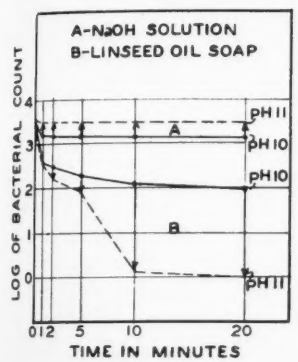
Soaps made from lauric or myristic acids, the two principal constituents of coconut oil were more active against *Escherichia coli* and *Eberthella typhi* than coconut oil soap.

The germicidal activity of the soaps of the purified rosin acids studied increased with the amount of hydrogen in the rosin acid molecule when *Staphylococcus aureus* was used as the test organism. However, this correlation of germicidal activity with the molecular structure did not hold when *Escherichia coli* was used as the test organism.

Increasing the pH of both rosin soap solutions and fatty acid soap solutions above that normal to the household and toilet soaps increased the germicidal activity of these solutions.

Solutions of alkalies and alkaline salts in concentrations that have a pH of 10 and 11 were only slightly germicidally active. Sodium hydroxide solutions did not become markedly germicidally active until the pH of the solutions exceeded 11 or the temperature was raised above 40° C.

The germicidal activity of all



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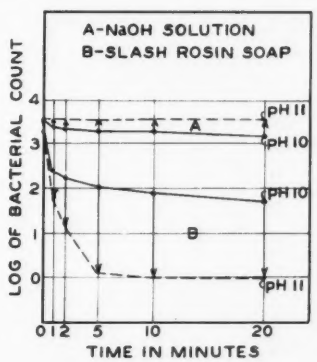

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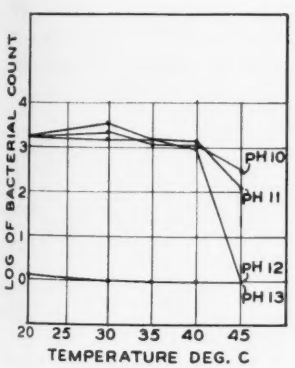

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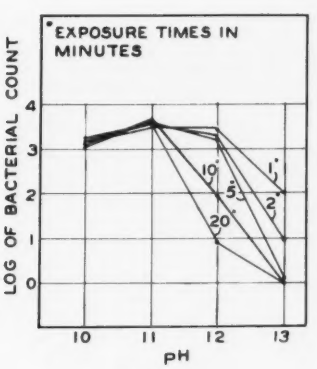

FIGURE 4

PLATE 2

Fig. 1—Effect of increasing the pH from 10 to 11 on germicidal activity of 0.25 per cent linseed oil soap at 30° C. against **Staphylococcus aureus.**

Fig. 2—Effect of increasing the pH from 10 to 11 on germicidal activity of 0.25 per cent rosin soap at 30° C. against **Staphylococcus aureus.**

Fig. 3—Effect of temperature on germicidal activity of solutions of NaOH at pH 10-11-12 and 13 as shown by 5-minute exposures of **Staphylococcus aureus.**

Fig. 4—Effect of increasing pH on germicidal activity of NaOH solutions at 30° C. against **Staphylococcus aureus.**

soap solutions increased as the temperature was raised from 25° to 45° C.

A solution of 0.5 per cent rosin soap at pH 10.2 completely killed *Staphylococcus aureus* in 5 minutes at 30° C. Complete killing of *Escherichia coli* was accomplished in 2 minutes at 30° C. with a 2 per cent solution of either rosin soap or coconut oil soap at pH 10.2

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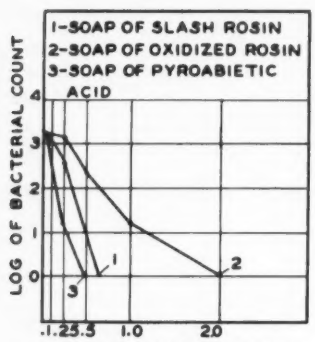

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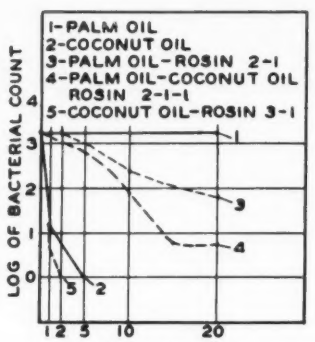

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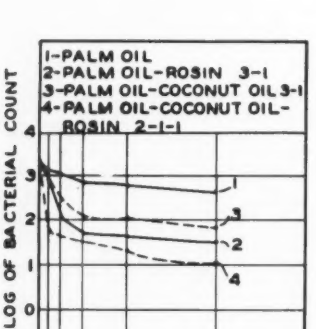

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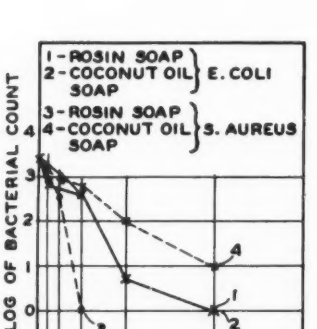


FIGURE 4

PLATE 3

Fig. 1—Relative germicidal activity of rosin soap for 2 minutes exposure of **Staphylococcus aureus** at 30° C. and various concentrations.

Fig. 2—Relative germicidal activity of 1.0 per cent fatty acid and fatty acid-rosin soap solutions against **Escherichia coli** at 30° C.

Fig. 3—Relative germicidal activity of 0.5 per cent fatty acid and fatty acid-rosin soap solutions against **Staphylococcus aureus** at 30° C.

Fig. 4—Comparison of germicidal activity of rosin soap and coconut oil soap solutions against **Staphylococcus aureus** and **Escherichia coli**, exposure time 2 minutes.

Viscosity of Oils

The Hoeppler viscometer may be used to determine the viscosity of both drying and non-drying oils, the results being expressed in Engler degrees. The viscosity index permits the differentiation of drying from non-drying oils. G. Buogo and G. Gasparro. Ann. chim. applicata **30**, 79-86 (1940); through Chem. Abs.

Uricury Wax

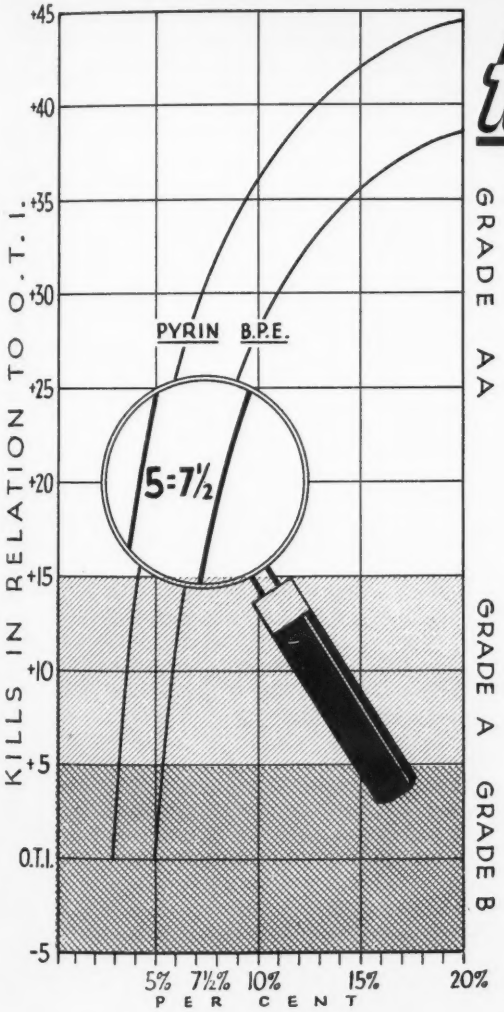
Uricury wax, prepared by scraping or by extracting with water the leaves of the palm *Cocos coronata*, Mart, is in general appearance and hardness similar to carnauba wax and is used for similar purposes. F. N. Howes. Bull. Misc. Information, Royal Botan. Gardens, Kew **1940,** No. 4, 155-7; through Chem. Abs.

Oil Spoilage Changes

Changes occurring in coconut oil on exposure to light and air in shallow dishes over a period of 656 days were: Continual decrease in iodine number, continual increase in viscosity, irregular upward trend in saponification number with a curve showing maxima and minima, and an irregular increase in acid number with a curve having a slope steeper during sunny periods. E. Glimm and H. Nowack. *Fette und Seifen* **46,** 632-5.

SANITARY PRODUCTS

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties



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5% of PYRIN makes your spray—plus 20 kill, AA grade. 5% of straight Pyrethrum Extract makes your spray—no plus in kill, B grade. You must use 7½% of straight Pyrethrum Extract (at 19 to 1 dilution) to get plus 20 kill, or AA grade . . . whereas with PYRIN you use only 5%.

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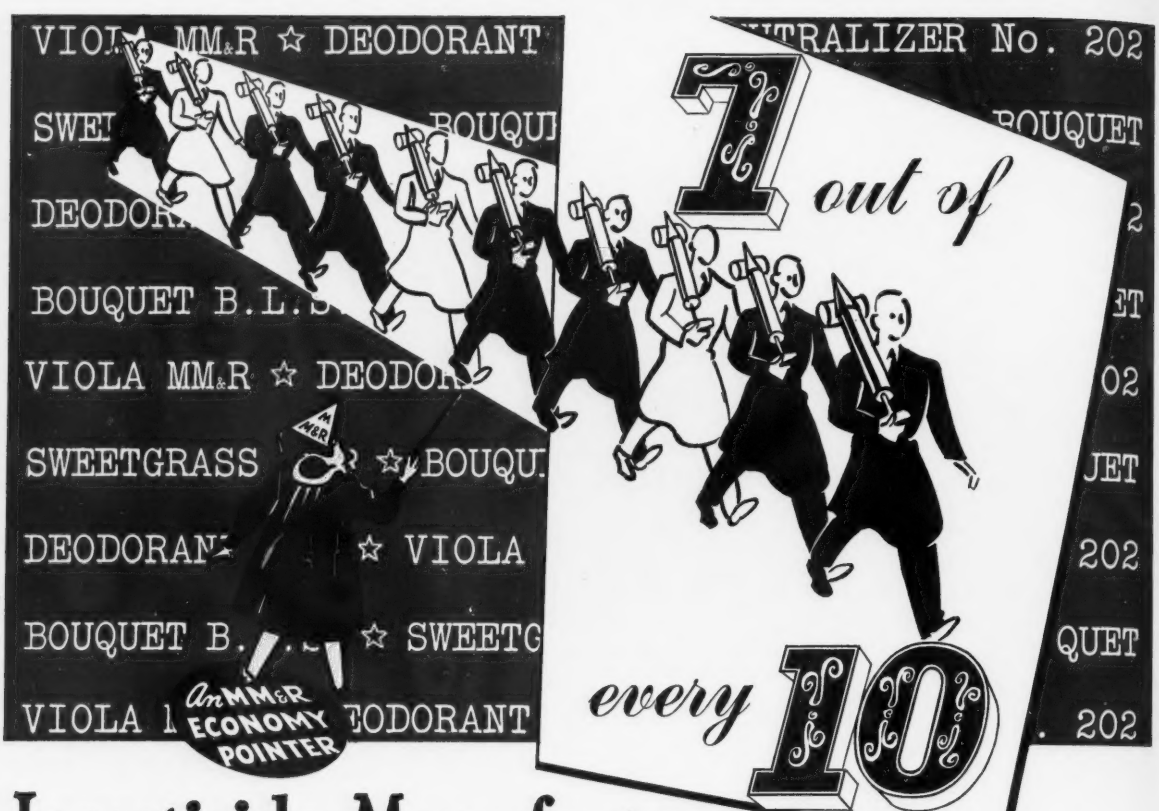

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who have told us how ~~much~~ LITTLE they could spend

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SUGGESTION—Send us a sample of your unperfumed, undeodorized spray, tell us how little you have to spend, and our laboratories will return your samples deodorized and perfumed.

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will be mailed later this month to every subscriber to *Soap and Sanitary Chemicals*. It is an invaluable reference volume that will find service every day in the year. Keep your copy readily available for day-to-day use. Familiarize yourself with the wide variety of useful information it contains.

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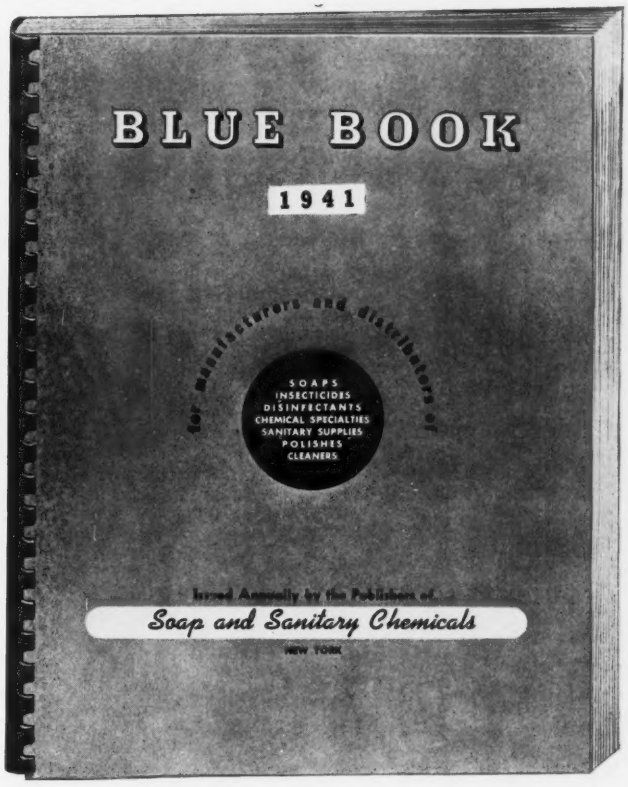

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Auto and Furniture Polishes—A review of typical formulas.

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Label Taboos—What label statements have been tabooed by the Federal Trade Commission for soaps, insecticides, scouring powders, disinfectants, deodorants, cleaning fluids, etc.

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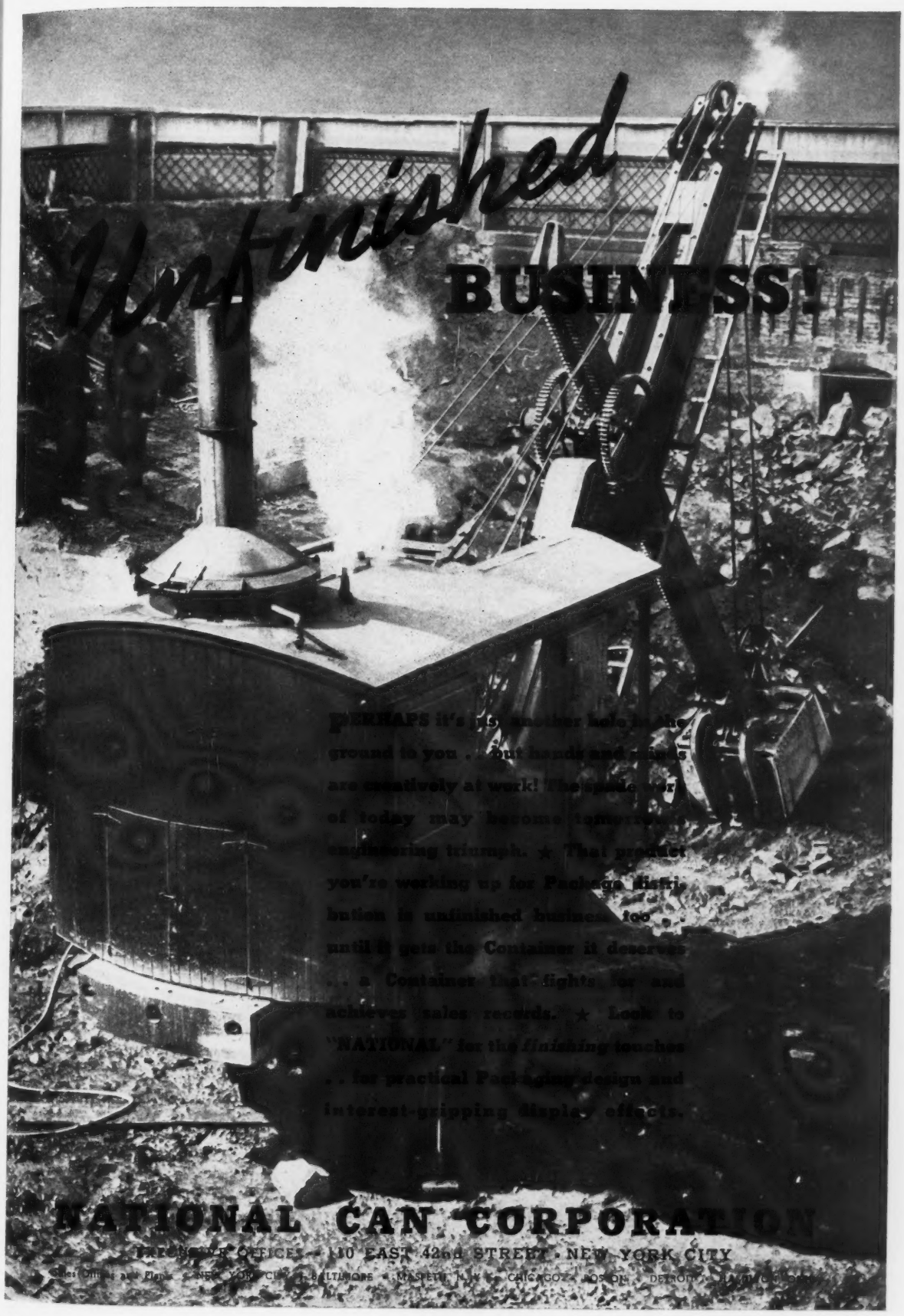
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CRESOL—U.S.P. with very close cut distillation range and light color, for pharmaceutical purposes—Meta-Para Cresol with high meta cresol content—Resin cresols close cut to wide boiling with guaranteed meta cresol contents and clean odor.

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Co-efficients 2 to 18 plus, F.D.A. Method.

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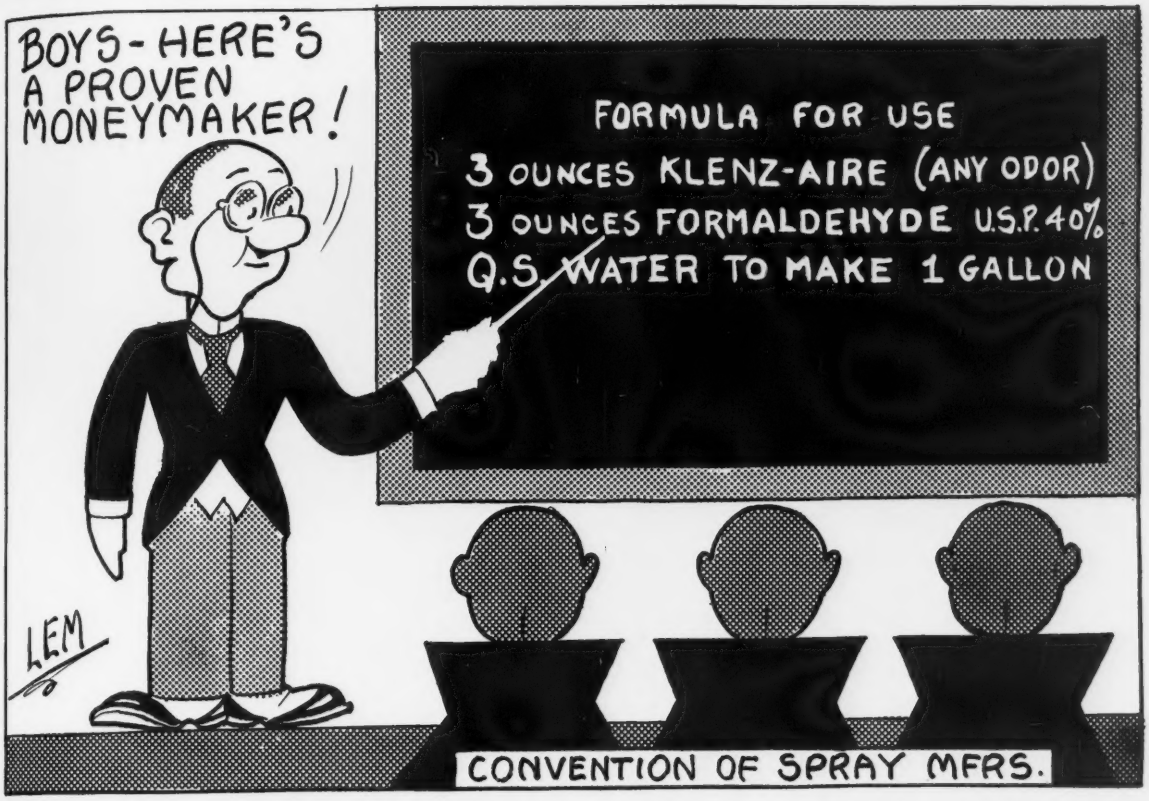
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FORMULA FOR USE
3 OUNCES KLENZ-AIRE (ANY ODOR)
3 OUNCES FORMALDEHYDE U.S.P. 40%
Q.S. WATER TO MAKE 1 GALLON
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CONVENTION OF SPRAY MFRS.

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This formula makes a finished deodorant spray in milky emulsion form which may be colored any shade to make it more attractive.

There is a great field for a deodorant of this type. It kills all tobacco, cooking, theatre and tavern odors. It purifies the air of any public place where crowds assemble. A little of this finished spray solution used by means of a spray directly into public urinals, will have an instant and efficient deodorizing effect.

Klenz-Aire Deodorant Oils will absolutely accomplish what we claim for them. Experiment yourself and be convinced.

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CHECK YOUR POSITION

The sailor knows he's on the right course for he frequently takes his bearings. Now, with the insecticide season at its peak, it's an excellent time to check your position in the market. See how your product stacks up against competition. Insecticides must kill effectively *and* be pleasant to use to enjoy acceptance in today's homes. These two points are equally important. The first is up to you and the second is our business, deodorizing and perfuming your insecticide. Send us a gallon of your unperfumed insecticide. Let us do some checking and then we'll send you samples of your product already perfumed with real sales appeal.

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GENERAL disinfectants which appeal to consumers are formulated with Yarmor* 302 Pine Oil. Their fresh, pleasant, piney odor gives them an instant sales advantage which is strengthened by their effectiveness in use.

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3 Are free from suspended matter. This denotes uniformity.

4 Are non-toxic to man when handled as a disinfectant.

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7 Leave a clean, piney odor wherever applied.

*Reg. U. S. Pat. Off.

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Recent Survey Has Disclosed That 97% of Farmers Expect Knock Down and Kill from Their Cattle Spray.

LETHANE 384 gives cattle sprays three times faster knockdown, higher kill and greater and longer repellency than is economically obtainable with any other complete insecticidal agent. The use of LETHANE 384, therefore, assures you that your cattle sprays will answer the expectations of the farmer, and consequently attract his patronage.

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REMEMBER, LETHANE PRICES ARE LOWEST IN HISTORY!

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Manufacturers of Leather and Textile Chemicals, Specialties, and Finishes . . Crystal-Clear Acrylic Plastics . . Synthetic Insecticides . . Fungicides . . and other Industrial Chemicals

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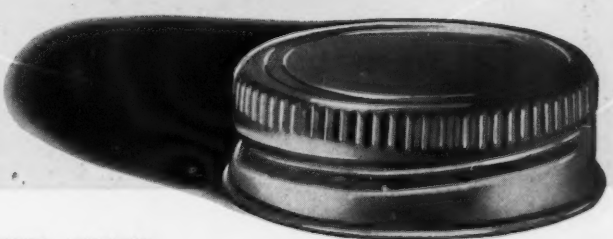
GLASS will make *Extra* sales for your insecticide

SELL YOUR INSECTICIDE IN THIS CONTAINER...
Shapely and sturdy, practical on the production line, easy to label, effective display. Samples sent on request.

THIS IS THE ANCHOR C.T. CAP... The practical, sure-sealing closure with a proven record of performance. Cap your Container with this Anchor C.T. Closure and your insecticide not only reaches your customers in its original strength and condition, but remains so to the last. Samples gladly sent on request.



TODAY WOMEN BUY WITH THEIR EYES

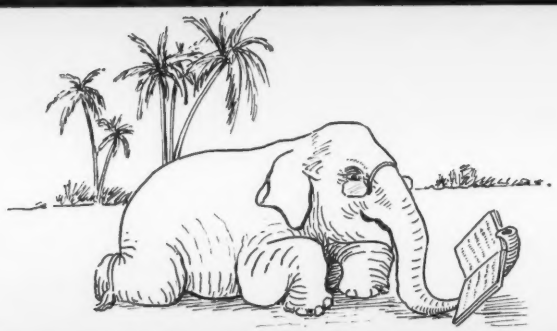
Consumer movements and magazine articles are teaching them to SEE what they're getting. And the insecticide packed in a clear, sparkling glass container is the one that first catches their eye...most quickly wins their approval... moves fastest off the shelf. Whichever way you look at it, glass gives you a merchandising plus that puts your product out in front.

• What's more, glass not only speeds the sale—it helps to keep 'em sold. By packing your insecticide in an attractive Anchor Hocking glass container topped with the tight-sealing Anchor C.T. Cap you protect and preserve its quality and strength to the last...prevent rust, seepage and leakage...avoid deterioration due to dust infiltration...and please the housewife with a good looking, easy-opening, easy-closing package that brings her back for more. And with a glass container she can SEE when her supply is running low in plenty of time to stock up again.

• Better yet, by availing yourself of Anchor Hocking containers and closures you secure all the benefits of a single source of supply, dependable deliveries and a matching, unified package. Don't take our word for this—prove it for yourself. Send us two of your present packages, and we'll repack your insecticide in glass and return to you with all cost figures and full information. No cost or obligation.

ANCHOR HOCKING GLASS CAPS

ANCHOR HOCKING GLASS CORPORATION • LANCASTER, OHIO



Wholesale Trade Only

Baird & McGuire, Inc.

ST. LOUIS, MO. HOLBROOK, MASS.

SANITARY PRODUCTS

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

UNBROKEN packages for insecticides? This is a problem which insecticide manufacturers, both household and agricultural, must face and solve over the next few months. That the industry is split quite widely on the question has been apparent for some time,—and there are rather strong feelings on both sides. The inclusion of "unbroken package" requirements in recent state insecticide bills has brought the matter to a head. And as a result of this, the industry can no longer avoid getting down to brass tacks and finding its own answer. The whole subject is due to be dissected publicly in the very near future,—and those with interests at stake should make sure their voices are heard.

THE trend to require coloration of all sodium fluoride used anywhere for insecticidal purposes, whether in small packages or by professional pest control operators, is gaining momentum. Steadily, restrictions on the use of uncolored sodium fluoride are spreading,—and it is one of the few definite restrictive measures in the sale and use of an insecticide material which we commend wholeheartedly. But why wait until your state passes a law? Whether you are a manufacturer, distributor, or pest control operator, you have a very definite stake in maintaining the safety reputation of your business and your products. Eventually, white fluoride will be banned completely. Why not take the initiative now, if you have not already done so, and support this trend by refusing to buy or use anything except colored fluoride?

AND still they come,—new specifications for liquid insecticides with ridiculous requirements, many of which cannot be met, according to leading entomologists, and which accordingly reduce to a minimum the number of firms who will take chances in bidding. New York State has issued the latest specification in this class, impracticable and inexpertly drawn, has received bids and awarded a contract for supplying insect spray under it. Now, the trade is waiting to see what the state will do when the material is delivered and tested,—if it is tested.

Among other things, the specification calls for the equivalent of a Grade AA spray, but with the additional requirements that it must kill roaches without being sprayed on them, must mothproof for four months materials on which it is sprayed, must prevent a recurrence of bedbug infestation in sprayed places for ten months, and must also be suitable for use as a cattle spray with no burning or other deleterious effects.

Now, between us, this should be quite some insect spray! Ideal? We'll say it would be ideal. But so would a medicine, one dose of which would cure every known disease from athlete's foot to cancer,—and keep it cured for ten months irrespective of other conditions.

WATER EMULSION WAXES

1931 versus 1941

By Richards Jarden

Franklin Research Company

As one of the pioneers in the business of manufacturing water emulsion waxes for use on floors, I enjoy remembering those rather chaotic days of 1929 to 1931 when water waxes for floors were first introduced to the larger owners of floor space.

The four points of importance at that time were—

1. the ability of the material to dry to a fair gloss without polishing
2. the fact that it would spread itself over a large area
3. the ease with which the material could be applied
4. the fact that it kept the floor clean

To the best of my knowledge, none of us had any conception of such characteristics as slip hazard, water resistance, surface tension, balance of film, etc. in those days. Therefore, it is natural that with the manufacturers and merchants of the product giving absolutely no thought to these important subjects, and failing to understand the advantage of such characteristics, the materials as offered back in 1931 had many shortcomings from a quality standpoint.

As I remember it, it was merely a question of working all day in the selling field and then starting in about nine o'clock in the evening and working until about three o'clock in the morning making demonstrations in the larger buildings. The fellow with the strongest legs or the one who could get along with the least sleep seemed to have the best chance of success. He certainly did not sell his particular brand of water emulsion wax on the basis of its being better than some other brand, because your competition was not another brand of water emulsion wax but a "bucket of water, a cake of soap and a scrubbing brush." That is what constituted the accepted method of floor maintenance in those days and the man selling water emulsion wax had, as his job, the problem of convincing the floor owner that it was more economical to wax floors than to scrub them.

Just as the four points mentioned above became the points of issue with all salesmen, so did the question as to possible harm to valuable floor covering become the point of issue with the important buyers.

The material was new. The large manufacturers of floor cover-

ing, whether linoleum, rubber, asphalt tile, etc., knew no more about it than did the layman floor owner and the hard working salesman lost many an order prior to 1931 because the floor owner could find no real authority for the use of water emulsion wax. In fear that the floor covering manufacturer's guarantee would be jeopardized, he would not use the material even after being convinced that it would save him money in his maintenance program.

This difficulty was quickly corrected, for the floor covering manufacturers recognized the advantage of wax maintenance and were quick to draw up specifications to allow for the testing of the different brands to determine if they would or would not harm his particular type of floor covering. Certain brands failed to pass the test of the linoleum, the rubber or the asphalt tile group, while others passed with flying colors and these brands surged ahead in public acceptance.

Advertising copy and sales efforts were immediately reshaped to make a paramount issue of "Approvals" by large floor covering manufacturers and this was as it should have been, for frankly the industry uncovered many poorly made products that were definitely harmful. As a matter of fact any prudent buyer should today insist that the brand he purchases be one that is acceptable to the manufacturer of the particular type of floor covering in his establishment.

Now at this point of the game, no attention had been given by wax manufacturer, merchant or floor owner to such important features as—

Water resistance

Slip hazard, etc.

but we move along rather rapidly in this country so that during the short ten years between 1929 and 1939, great strides were made by a number of manufacturers in the water emulsion wax field. First, we woke up to the fact that water resistance was a necessary part of a water emulsion wax, because certainly if one goes to the trouble of applying wax to his floors tonight, he does not want them ruined by wet foot tracks tomorrow. Damp mopping is still the accepted method of maintenance on most floors and it became necessary to make water emulsion wax in such a way as to prevent it from being materially damaged by this nightly application of a damp mop.

The manufacturers of water emulsion waxes as a group, undertook for a number of years to change the tendency of building superintendents to damp mop their floor surfaces and to substitute for this procedure a mere brushing of the waxed surfaces with a brush, broom or machine. This effort failed. The building owners and managers insisted upon the use of a wet mop, and thus the wax manufacturers were faced with the necessity of changing their product to fit the accepted maintenance method.

The result was that a few outstanding manufacturers, willing to make investments in chemical investigations, found ways by which they could raise the water resistant quality of their product. There was an immediate public acceptance.

Unfortunately for the wax business, quite a number of wax manufacturers, who either failed to recognize the need of improving their own brands or who lacked the ability, decided that they could not sit on the side lines and see a few leaders take all of the business because of having a better water resistance. So the whole industry apparently decided that it would advertise its product as being high in water resistance regardless of its actual rating.

This all happened back in 1936 and I believe that places a definite date on the time when the public began to get an entirely wrong conception of water emulsion waxes, because they innocently placed business with manufacturers who advertised something which they could not produce.

The industry was still in its infancy and unfortunately there had been no definite standard made by which the consumer could correctly check the statements of the different manufacturers. Naturally this led to confusion within the industry and a great deal of misinformation being placed in the hands of the consumer, no two of whom had the same idea as to what actually constituted high water resistance in a water emulsion wax.

THE two features that are receiving the greatest attention today are those of slip resistance and water resistance and these two points are most definitely tied together. If a floor wax is weak in water resistance qualities, it cannot be safe in its slip resistant quality, because a wax with a low water resistance turns to a dangerously slippery soap mass when contacted by water, which might be either purposely mopped onto the floors, accidentally dropped onto the floors or tracked over the surface by wet traffic on rainy and snowy days.

While 1936 stands out as that year when the public became most confused over these water emulsion waxes, it also stands out as that year when a few of the leading manufacturers did start definitely to improve their product and give consideration to such points as toughness of film, lack of alkalinity, coefficient of friction, water resistance, etc. Prior to that date about nine out of any ten waxes were made on the same formula—one that has been broadcast by the manufacturers of the emulsifying agent triethanolamine. This formula was available to anyone who wanted to go into the wax business and the promiscuous distribution of that formula accounted for the great number of people who went into the wax business either with the hope of specializing or with the thought of using water emulsion wax as a side line to some other activity.

When the general public's demand for a higher water resistance developed, the emulsifying agent morpholine was offered to take the place of triethanolamine and with morpholine as an emulsifying agent it was possible—yes, we will say very easy, to produce a much higher water resistant product. So those wax manufacturers who were willing to pay the

difference between the cost of morpholine and triethanolamine made the change and did produce a better product, but keep in mind that those fellows who did not make this change still advertised their product as high in water resistance and added just that much more confusion for the poor consumer who would have twenty different salesmen call on him on the same day, each one claiming his product to be better than the others.

WHILE the subject of water resistance did take a paramount position in the consideration of the wax manufacturer, the salesman and the buyer back in 1936, we also find the outstanding wax manufacturer giving thought at that time to two other points of equal importance; namely—

Toughness of film.

Surface tension.

The subject was becoming more involved. We had passed the elementary stage and the buyers were beginning to recognize that there was a great difference between the true qualities of one brand and another. Naturally those manufacturers who were considering the product as a side line and who were still producing their wax along the line of the original triethanolamine or morpholine formula, were satisfied to proceed "as is" but others with greater vision and a determination to produce a better and better product as time went along, continued to keep their formulae in a state of evolution and thus made rather heavy investments in chemical knowledge and laboratory equipment in their effort to build into their individual brands each of these important quality features as it presented itself.

Toughness of Film (Wearing Quality)

This is to say that the film must be balanced between softness and hardness to a point of toughness, for if too soft it will track and wear off the surface quickly, while if too hard it will lack self healing qualities and powder off the floor under traffic.

Considerable confusion still exists on this point of toughness of film and can, to a great extent, be charged to over enthusiasm, or in some cases to a definite tendency to mislead on the part of certain merchants, who refuse to admit reasonable limits to the merits of their product.

The wearing quality of any given brand depends upon the type and quality of traffic abuse it receives and no user can even hope to establish himself on a brand that will wear for the same length of time at his front door entrance or in his elevators as in a little used office or corridor in the same building.

Again, wearing quality depends to a great extent upon the care in general housekeeping and because a certain brand "stands up" for a month in a building where the management sweeps the floors free of tracked in grit and traffic litter at reasonable intervals, does not mean that the same brand will "stand up" for an equal number of days in the carelessly kept building or in the building where the management is perfectly willing to exert care but unable to give the wax film attention because of some unusual local condition.

Surface Tension

This issue has to do with ease of application and the tendency of a wax to spread evenly over the surface, rather than to run up into ridges and thus give an uneven, streaked appearance to the finished job. No water emulsion wax will lay smoothly over a non-receptive floor surface high in either alkali or acid. The presence of excess alkali or acid breaks the emulsion, swells the wax particles and eliminates any probability of a smooth spreading of the liquid regardless of how well made it may be or how much care the operator may take.

At the same time, certain brands of water emulsion wax are so improperly made that they will not lay evenly on the most receptive surface, while still others are so made as to be much more readily affected by the presence of a small amount of either alkali or acid. The maintenance crew must exert so much care in the preparation of the surface or in the mechanics of application as to eliminate them on an economical basis.

These waxes that are undesirable from the standpoint of surface tension, might still be accepted by the floor covering manufacturers, as mentioned above. They are to some extent, borderline formulas and have in all probability just barely passed the specification of the floor covering manufacturers.

It must be understood that the floor covering manufacturers are merely telling us that such and such a list of products will not harm their floor covering. They do not undertake to list the approved products as to relative merit and the consumer must still make his choice of brands among quite a number that do vary considerably in desirability.

IT WAS not until 1938 that any real consideration was given to the subject of—slip resistance. Certainly slip resistance is tied most definitely with the subject of water resistance, for if any given brand is low in water resistance it follows that when wet, either purposely or accidentally, that brand will be like so much soft, slippery soap under foot.

But let us confine our thoughts for a while to a group of waxes that are about equal in water resistance. There is still to be found a great variance in the coefficient of friction of one of these brands against another when dry. Here we are back again to the point covered under the subheading "Toughness of Film." It must not be too hard nor too soft or it will naturally be slippery and unsafe under foot, but above this is the fact that certain formula are so manufactured as to include "built in" non-skid ingredients. This includes correct blending of wax content and the correct handling of emulsifying

agents of which there are many in every day use.

This subject of slip resistance is definitely a technical one and is so broad that only the larger users can afford to make as complete a study of it as is required to arrive at an intelligent conclusion.

We have, for example, to deal with the dual subjects of "kinetic" friction and "static" friction. Kinetic friction deals with friction in motion, whereas static friction is that which is necessary to *start* motion.

Which of these two types of friction is the layman to deal with. Frankly, there is a difference of opinion even among the so-called experts and certainly a machine devised to test kinetic friction will be absolutely useless in a test of static friction.

This point alone leaves the layman user of wax with the necessity of arriving at his decision under practical rather than technical methods. There are two practical methods to follow here.—1st. Accept the findings of your casualty insurance company engineering department, or the findings of some nationally recognized and important independent laboratory, or—2nd. Insist upon the salesman demonstrating his material against competition, side by side on the same floor at the same time.

This side by side test on the same floor at the same time is an important one, for it seems impossible to make a fair test otherwise, because of the great difference in the porosity of different floors or the condition of different floors, which frequently result in one product having more opportunity to penetrate into the surface than another. Naturally a test must be made with the same thickness of film of both products on the surface.

Certain manufacturers have undertaken to furnish their sales organization and interested buyers with so-called "slip test" equipment with which a very fair comparison of different products can be accomplished. Naturally such equipment is not as efficient as technical equipment that might be built into a large laboratory, nor does it tell as true a story as can be told by a practical test of two products side by side on the same surface. But these small widely distributed testing kits do tell their story and the fact that they are available at no cost, should certainly be sufficient invitation to any interested user who is conscious of slip hazard to look them over for they will most definitely "separate the wheat from the chaff."

Even though they may not be sufficiently technical to allow for an intelligent decision between two products of somewhat equal merit, the mere fact that the manufacturer has gone to the expense and trouble to offer such testing equipment could be accepted as earnestness on his part and proof of the fact that he is giving attention to the subject of slip in his own laboratory.

The time, trouble and care that the floor owner takes in making an intelligent selection of waxes is justified by the necessity of his giving due attention to the last point of quality; namely—

The Legal Aspect

The attorneys tell us that the owner of a floor owes certain obligations to the public—primarily his duty is to establish himself on an accepted material and an accepted method.

Now, what is an accepted product? Well, one can usually transpose these legal terms into commonplace language without great trouble. Surely an accepted product is just what the term implies—one that is used and sold freely by and to a broad listing of reasonably important and well known consumers and merchants. (Surely it is doubtful if the product that is merely available in small quantity on a narrow local basis can be classified as "accepted.")

Just where the line should be drawn is a matter for court decision, but a prudent buyer has a rather broad choice of brands without allowing himself to purchase even close to that line that separates the accepted and the not accepted from the standpoint of court decision.

Further, just as it was pointed out that the large manufacturers of floor coverings have made a study of the chemical composition of water emulsion wax, so do we now find that many of the large casualty insurance companies have made a study of "slip hazard" and water resistance. Because of those studies they are able, and in many cases willing, to guide their insured parties towards a correct selection of a brand that is safe from a legal standpoint.

Certain manufacturers of water emulsion wax, too, have so definitely accepted their responsibility to the public as to offer their brands for examination by independent laboratories, who in turn go on record as having made tests as to assure themselves and the public that the brands in question are less slippery and thus safe.

It would seem that if that unfortunate floor owner who was taken to court because of an accidental or even a planned fall within his establishment, were to present to the court the fact that he had made his selection of brands after having seen and taken into consideration the finding of such authority, that the court could find no other response but that that man had fulfilled his obligation to the public by having taken such care in his selection.

Now, back that confirmation of safety with the fact that the brand in question is used nationally by many of the leading consumers of the country, and again it seems that the court should find no other response but that that man had fulfilled his obligation to the public by having purchased and used an accepted product.

THIS consideration of the above mentioned points of quality for a water emulsion wax, must lead to the conclusion that any such product must be well balanced in all of these quality features if it is to be economically right. The problem of both the wax manufacturer and the wax user have evolved to

(*Turn to Page* 117)

What price INSECTICIDE BIDS?

Sharp criticism from industry and N.A.I.D.M. leveled at New York State specification for liquid household insecticide. Nine bids submitted ranging 47c to $1.53- Contract awarded at $1.35-Experts deny specification can be met- Trade awaits the results of tests.

FOLLOWING the issuance recently of a new specification for liquid household insecticide by the Division of Standards and Purchase of New York State, widespread criticism and protests were received by the National Association of Insecticide & Disinfectant Manufacturers and by the editors of this publication. The protests included statements that the new specification contained several requirements impossible of achievement and that the specification accordingly excluded from bidding reputable firms which would not bid unless they were certain that their product would and could meet all requirements.

Among other things called for by this new specification were requirements that the product should kill roaches when not sprayed directly upon these insects, and that after spraying none of the roaches should be capable of running away, that rooms and beds sprayed with the insecticide should be free of bedbugs and should *remain* thus for a period of at least *ten months*, that testified proof must also be submitted with bid showing the effectiveness of the same insecticide as a *cattle spray*, and it must protect against damage by moths and carpet beetles for four months and proof of its ability to do this must be submitted with bid.

A committee of the National Association of Insecticide & Disinfectant Manufacturers, after the receipt of numerous protests from the industry, arranged an informal conference with a representative of the Division of Standards and Purchase of New York State. This committee urged that in view of the character of the new specification, the specification be abandoned and be replaced with the National Bureau of Standards specification CS 72-38, and that a Grade AA product under that specification be required. This suggestion was taken under advisement by the representative of New York State with the comment that the specification as written or slightly modified would be tried for one bid to see what happened. Accordingly, bids were called for and nine bids were received in spite of the impossibility of achievement which was indicated by the comments of prominent entomologists. Just what will be delivered by the successful bidder in this instance is going to be watched with keen interest, according to the comments of a number of manufacturers who refused to bid.

ACCORDING to advices from the Division of Standards and Purchase at Albany, N. Y., bids were received from the following suppliers: E. Rabinowe & Co., Yonkers, N. Y.; Insecticide Corp. of America, Medina, N. Y.; A.M.R. Chemical Co., Brooklyn, N. Y.; Clifton Chemical Co., New York, N. Y.; American Disinfecting Co., Sedalia, Mo.; Hewes-Gotham Co., New York, N. Y.; Samuel Halaby Co., Rochester, N. Y.; Monty Laboratories Co., Albany, N. Y.; Fumol Corp., Long Island City, N. Y. The prices submitted by these bidders, according to the same source of information, ranged from a low of 47 cents up to $1.53 per gallon in 55 gallon drums, and from 56 cents up to $1.68 per gallon in one gallon cans, as follows:

Quantity	*Low*	*High*
1 gal. tins	56c	$1.68
5 gal. tins	53c	1.63
30 gal. drums	50c	1.58
55 gal. drums	47c	1.53

The contract which approximates 7,500 gallons of insecticide was awarded to the Samuel Halaby Co., Rochester, N. Y. for their product, "Kil-Moe," at the following prices: 1 gal. cans, $1.55 per gal.; 5 gal. cans, $1.42 per gal.; 30 gal. drums, $1.37 per gal.; 55 gal. drums, $1.35 per gal. Accordingly, with a low bid of 47 cents per gallon in 55 gallon drums submitted, the contract was not awarded to the low bidder, but at a price about three times this figure. No reasons were given why the low bidder was not awarded the contract. Examination of some of the bids showed that a few manufacturers

ignored the specification in bidding and offered to supply different products to be evaluated solely on the basis of samples to be submitted. This may account for some of the lower bids being rejected in favor of a higher bid. The successful bidder was second high among the prices submitted.

THE following correspondence between W. J. Zick, president of the National Association of Insecticide & Disinfectant Manufacturers, and Joseph V. O'Leary, Commissioner, Division of Standards and Purchase, indicates the basis of the protest filed in Albany against the new specification and the reply of Commissioner O'Leary:

Mr. Joseph V. O'Leary, Commissioner
State of New York
Division of Standards and Purchase
Albany, New York

Dear Sir:

I want to take this opportunity of stating that under date of January 20th, the writer as well as the Secretary of our Association, Mr. Ira P. MacNair, and an entomologist, Dr. Alfred Weed of John Powell & Co., called on your Mr. Wolf and protested against the specifications for liquid insecticide on which you were receiving bids to be opened on January 28, 1941.

After hearing our protest, Mr. Wolf agreed to take the matter under advisement and apparently as a result supplement to the specifications was issued, dated January 22, 1941. However, these slight changes in the specifications in no way changed the basic specifications, which made it impossible for any reputable bidder to bid, and as a result you received only nine bids, of which two bidders were members of our Association and one of these bids was submitted with the express statement that samples be submitted for approval.

It would give me great pleasure as President of the Association to appoint a Committee of entomologists and chemists to represent the Association and to work with you in drawing up a set of specifications that would prove acceptable both to you and to the industry.

May I hear from you in this connection?

W. J. ZICK.

Feb. 3, 1941.

National Association of Insecticide and Disinfectant Mfrs., Inc.
New York, N. Y.
Attention: Mr. W. J. Zick

Gentlemen:

Referring to your letter of the 3rd inst., Mr. Wolf advised me of the meeting in his office and stated that you were of the opinion that all the requirements he had enumerated in the specifications were impossible of attainment but you did agree that it would be an "ideal," if it were possible to attain them.

In view of some tests made at one of our institutions, it was Mr. Wolf's opinion that it would be possible to attain something nearly as ideal rather than just merely basing all requirements on the Peet-Grady test.

We are anxious to obtain a quality product for as many diversified uses as is possible and still economically consistent. The next few months will tell us whether or not such a result is at all feasible.

I should be very glad to have your Association do any such constructive work as you outline and to proceed in drawing up specifications as near as possible to the ideal which we wish to attain and with the idea that price is not a primary consideration.

Very truly yours,
JOSEPH V. O'LEARY,
Commissioner.

SALIENT points in the New York State specification against which the numerous protests were received, are given in the following extracts from the specification as issued in revised form:

TYPE AND GRADE: The liquid insecticide (not a concentrate) as described herein shall be furnished in one type and one grade. It shall be used directly from container. It shall be formulated of ingredients of USP quality or better. It shall be effective on flies, mosquitoes, gnats, cockroaches, water bugs, bed bugs, fleas lice (animal and human) ticks, spiders, ants, moths and the eggs of any of the above. The insecticide shall be effective for at least four months against damage by moths, in spraying furniture, blankets, woolens and other materials that are subject to them. The liquid insecticide shall be an effective cattle spray.

PERFORMANCE: The insecticide shall produce the maximum expellation, knockdown and final kill in all uses. The spray shall be absolutely uniform in quality, kill and knockdown from batch to batch. Under the Peet-Grady test method, the liquid insecticide shall show a knockdown of not less than 99 per cent in ten minutes and a kill of not less than + 16 per cent over the Official Test Insecticide in twenty-four hours. Official proof by an independent testing laboratory shall accompany bid.

A roach-infested place shall be sprayed with medium fog. None shall be sprayed on the roach. The roaches must all be affected by the spray so that none shall be capable of running away (that is, not more than 25 ft). They shall be collected with care to cause no injury and placed in an open container. The height of the container sides shall be ½ in. At the end of 36 hours the same number of roaches shall be in the container and they must all be dead. Testified proof of the above shall accompany bid.

A mattress or pillow infected with bed bugs shall be thoroughly sprayed, including the frame of the bed itself. All potential sources of bed bugs (such as picture frames, curtains, moldings, baseboards, fixtures, walls, etc.) shall be sprayed. One such treatment must prevent the recurrence of bed bugs for at least ten months. Testified proof of the above shall accompany bid.

Testified proof shall be submitted with bid showing effectiveness of the liquid insecticide as a cattle spray and meeting requirements previously listed.

The insecticide shall conclusively kill clothes moths and carpet beetles their larvae and eggs. When sprayed on furniture, woolens, rugs, blankets and other materials affected by these insects, it shall protect these materials from damage for at least a period of a storage season, or four months. Testified proof shall accompany bid.

All requirements listed shall be met, even after the liquid insecticide has been kept in storage at least 90 days. Testified proof must accompany bid.

SERVICE: Successful bidder shall have available experts in the extermination of all insects mentioned in this specification, and in its usage and who shall call at least once a year on such institutions, departments and agencies where the liquid insecticide is shipped and shall furnish instructions on the proper and economical usage of the insecticide, methods of application, etc.

Omission

In the publication last month of the article, "Rat Lures," by J. A. Lubitz, C. R. Fellers and A. S. Levine, we omitted to mention the contribution number. It is contribution No. 390, Massachusetts Agricultural Experiment Station, Amherst, Mass.

D & O PYRETHRUM EXTRACT NO. 20 Odorless

WHEN the announcement was made three months ago that D & O Pyrethrum Extract No. 20 Odorless set a new and higher standard for Pyrethrum concentrates and was superior in the important points of clarity, color, stability and freedom from extraneous odor, it was greeted with interest tinged, however, with some skepticism and the feeling that some exaggeration was permissible in advertising.

Since then hundreds of users, large and small, have seen the product, many have adopted it, and most of the others plan on doing so. Most important of all is the universal recognition that claims made for D & O Pyrethrum Extract No. 20 Odorless are conservative rather than exaggerated, and that it actually is the best Pyrethrum concentrate available.

DODGE & OLCOTT COMPANY

180 Varick Street **New York, N. Y.**

BOSTON : CHICAGO : PHILADELPHIA : ST. LOUIS : LOS ANGELES

Plant and Laboratories . . . Bayonne, N. J.

SANITARY SUPPLIES

... and the DEFENSE PROGRAM

By A. E. Stilson*

Morse-Boulger Destructor Co.

INSECTS, bacteria and rodents have been a principal enemy of civilians as well as the military for more years than can be counted. Whether they are met in an army camp or not, does not change their nature. Therefore, you may believe that as a general principle, effective control measures known to you in civilian life will be equally effective in a military establishment.

The principal difficulties in the two problems, then, must lie in environment and other surrounding conditions. In order to understand and obtain a true estimate of the situation, let us examine the battle area. On 'M' day from 10,000 to 60,000 men will be mobilized at Post 'X'. Post 'X' will be located at any suitable point in the United States and strategically situated as to transportation and distance with regard to centers of population. The site will be as level as possible; will probably be more or less sandy; reasonably close to flowing water and will, for the most part, be supplied with timber which is apt to be predominately conifers.

Camps at Post 'X' will be sub-divided on the basis of divisions, regiments and companies. Principal thorough-fares will be paved at least in part or marked out for paving. Secondary streets and company streets, in practically every case, will be unpaved. Secondary streets and company streets will be either seas of mud or ribbons of dust.

The quarters for the men will be of two types: First, fresh wood and tar paper barracks or, second, simple tents on wood platforms slightly raised above the ground. The warehouse will have a concrete floor, but will be, for the most part, of wood construction. Mess halls or mess tents will be of similar construction to the quarters for the men. Adjacent to the dining portion will be a kitchen. Close to the kitchen, there will be arrangements for heating three G.I. cans for washing the dishes, a soakage pit for the reception of liquid wastes, a garbage platform for covered G.I. cans and a more or less temporary water supply.

There will be in each battalion area a latrine, either directly connected to a sewer or more probably, located over an earthen pit, particularly in temporary camps. The latrine will be provided with accommodations for 8 per cent of the command at one time.

So far as possible, all buildings will be screened, with particular emphasis on the screening of mess halls, kitchens, food storage house and latrines. In locations where mosquitoes or other insects are apt to bother the men while sleeping, the individual man will be provided with a mosquito netting.

Reasonably close to the post, there will be a town. This town will be average, middle-class with perhaps a limited sewage disposal plant and an incinerator. The local Health Department will not be overly careful and, as the result, there will be a goodly percentage of insect breeding, — rats, mice, flies, mosquitoes that will originate in and around this town which will find their way to the camp. The men themselves, from time to time will visit this town. This town will be overloaded with camp followers and others more or less connected with the camp and its business. You may reasonably expect that any unhealthful condition breeding bacteria in the town will react upon the camp very rapidly.

The water supply for the camp will not be overly abundant and it will be wasted as the American has no sense of water discipline. Drinking water will be chlorinated at source and at point of distribution, if it is provided by the Army. The water supply of the town, however, may be very poor. The men going to town will inevitably partake of the town's water supply with the usual resultants of dysentery and intestinal up-set.

Every effort will be made by the Army to procure pasteurized milk and dairy products of all kinds will be thoroughly inspected. Despite this fact, however, these dairies and farms will serve as a source of origin for bacteria and disease.

Having examined our surroundings, we will now examine our men. Approximately 55 to 60 per cent will be so-called urban. These city and town-bred boys will probably be in better health and have a greater immunity to so-called childhood diseases and common cold than will be the case of the 40 per cent which are country boys. About one out of every five, will not know what a tooth

*Address before the 27th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, December, 1940.

RIGHT TO LUSTRE
LEFT TO WATER RESISTANCE
RIGHT TO NON-SLIPPERY
LEFT TO DURABILITY

. . . and you have the combination that will open the door to record floor wax sales. No amount of tugging will open the door if you stop dialing at lustre . . . nor can you get in without combining all four "numbers" perfectly.

Candy's Bright Beauty combines all four to make a floor wax that will even outsell other waxes that have proven eminently satisfactory. In Bright Beauty, we don't sacrifice lustre to gain a finish as skid-proof as fly-paper. Durability is important, but it is never emphasized to the exclusion of safety in walking. Nor is it so water resistant that you have to chip it off the floor before applying a new coat.

On the floor, Candy's Bright Beauty rivals those waxes that make a fetish of gloss or lustre. Reasonably water resistant, Bright Beauty will not milk in wet weather . . . withstands damp mopping, yet can be readily removed when it's time to apply a new treatment.

Bright Beauty is not excessively slippery. To be actually *non-skid*, a wax would have to be so soft and sticky that it would be impractical for use as a floor finish. The right "number" here is safety in walking for the average person.

Put Bright Beauty on a prospect's floor . . . alongside a wax that has already "sold" him, and you practically have an order. (A statement we will gladly demonstrate to your satisfaction any time you give us the opportunity.)

Sold Through Distributors Only

Bright Beauty Waxes are never sold direct to the consuming trade* but through distributors only. It is our unalterable policy never to compete with our jobbers. Packed in attractive containers under your own label. Competitively priced to allow your usual mark-up.

Try Bright Beauty Waxes under your own most rigid tests! Write for FREE experimental sample. No obligation involved.

* Except for experimental accounts in Chicago, essential to research.

Al Candy, Jr.

CANDY & CO., INC. WAX SPECIALISTS FOR OVER 40 YEARS 2515 W. 35TH ST. CHICAGO

Manufacturers of Prepared Paste Wax, Spirit Liquid Prepared Waxes, Powdered Dance Floor Wax, Concentrated Cream Furniture Polish, Paste Cleaners

brush is for. A very small percentage of them will know what it means to take a bath oftener than once a week or perhaps once a month may be nearer to the truth. These boys will, for the most part, have no idea as to what causes mosquitoes or flies to breed or know where they breed. Very few of them will know the dangers from flies or mosquitoes, etc. Their officers will, of course, give them every bit of education along these lines that is possible and will make them conform to regulations. But as someone once said—"There are regulations which we go 'bye' rather than according to."

According to regulations, sanitation is the responsibility of the Unit Commander. The order of command will be of interest to you. We commence with the Company Commander; next is the Battalion Commander; above him we find the Colonel of the Regiment. It is not until we reach the Colonel that we meet the medical officer who acts as advisor. Normally, this medical officer and his assistant are the first point of contact that anyone interested in sanitation will make when they visit the regimental area. Above the Regiment, we find the Divisional Commander and Divisional Surgeon, the Corps Surgeon and the Army Surgeon, each one of whom has on his staff men of the Sanitary Corps who will have made a study of the problem.

With this survey as a background, I now proceed to give you a glance at the enemy. They are:—

(1) Bacteria contaminating the water supply; latrines and showers; foodstuffs; kitchen and mess utensils and equipment; tents and barracks; and the civilian area generally surrounding the point of concentration.

(2) We meet bed-bugs inhabiting the woods and area before the men came; wood-ticks; cockroaches; flies and fly larvae; filter flies from the sewage treatment plant; mosquitoes and their larvae; beetles and crickets; gnats; punkies; lice; animal flies and fleas; spiders and ants.

(3) Field mice; black, brown and gray rats; squirrels, gophers; dogs; cats; etc.

I WILL now give you an idea of what amunition is available to the Army for combating these enemies. They are:—

(1) Quartermaster issue soap. Guaranteed to remove the skin from a walrus and smell like the dregs from a chemical factory.

(2) Soap purchased by the men from the post exchange.

(3) Creosol and its derivatives; kerosene; chlorine; chloropicrin; sulphur candles; cyanides; sodium fluoride; turpentine; limited amounts of hot water; steam; elbow grease.

(4) Red squill and ample supplies of fresh scraps for baiting the rodent poison and traps.

(5) Fly traps; fly paper; crude oil; Paris green for dusting.

(6) Ingenuity of the officers and unit commanders.

(7) Incinerators; covered garbage pits; composted and controlled manure disposal establishments; elementary sewage treatment plants; drainage and swamp elimination plus miscellaneous aids, human and otherwise which can be enlisted including the local health department and ordinances, military police, etc.

It seems to me that I have given you as quickly as possible a bird's eye view of the entire picture. I know that you wish to concentrate on where you could fit into the picture. I am not prepared to discuss the relative merits of one chemical formula or device as opposed to another. I can only give you the elements which I consider to be vital insofar as the military establishment is concerned. These factors are:—

(1) The substance used must perform as per guarantee under average conditions without the need for especially trained men. The material should be pleasant to use, if possible.

(2) Materials supplied must be easily procured on the open market in quantities without unreasonable delay.

(3) Directions for their use must be plainly fixed permanently to the container and should be written in words of one syllable.

(4) Containers must be strong, weather-proof and yet light. Remember transportation is a primary problem particularly in these days of war movement.

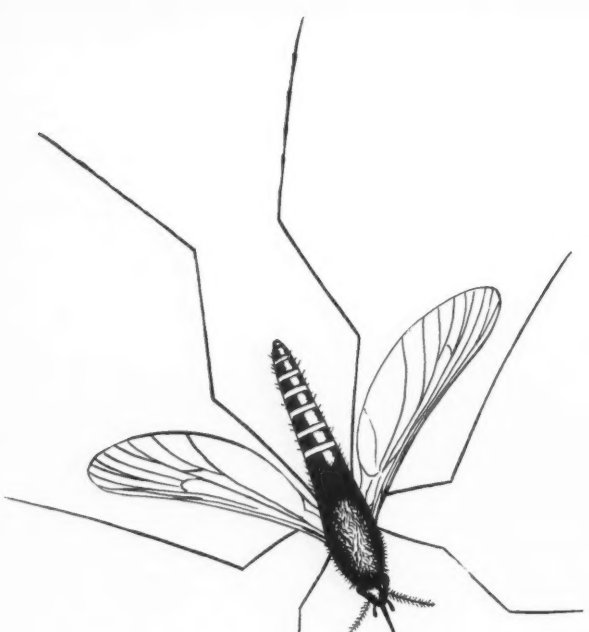
(5) Materials should be as inexpensive as is possible commensurate with good quality.

THE inventive genius of the average military man is amazing particularly in the American Army. The ways he can do things improperly in a spirit of experimentation will surprise you. I recall the instance of a buck-private assigned to fly elimination by spraying. He was struggling to force heavy crank case oil through a sprayer which was designed for a fly spray. I inquired his reasons. He replied—"Sir, these are Quartermaster's issue." Tracing the matter down, I discovered that they had run out of their supply of light oil or kerosene and wintergreen flavoring so the sergeant issued the crank case oil as a substitute. If you have not been told so, you must know that the sergeant runs the Army.

Another case,—I was inspecting a water transfer point and requested a private on top of a truck to dismount and perform a slight duty. Being in a hurry I urged him to move faster. His reply was—"Sir, as soon as I can get my feet out of these water cans, I will be glad to." You must know that these water cans were the means of transporting water from the depot to company street for drinking purposes.

If you would trace water transportation, you would find some railroad tank car which had been cleaned out. The water is then transferred to a 5000 gallon open canvas tank erected at an elevated point opposite the railroad tracks. From here, it is then led out by hose lengths, which

(*Turn to Page* 103)



BIOGRAPHY of the MOSQUITO

No. 6 in a series of sketches of troublesome pests

Of the more than 500 kinds of mosquitoes in the world, over 60 species are found in the United States. Greatest infestation is usually found along the seacoasts, but the insects also breed in fresh water. These species vary somewhat, although neither is disease carrying. The malarial mosquito is also widely distributed and their breeding place is usually a ditch, pool or shallow body of water. The yellow fever mosquito is found only in the warmer countries, including the southern part of the United States. All species of this pest bite in much the same way: on puncturing the skin they inject a poisonous substance which causes itching. Of interest is the fact that only the female bites.

Killed by PYREFUME

PYREFUME, the "perfected pyrethrum concentrate," is DEATH TO MOSQUITOES when diluted as recommended. Flies, bedbugs, cock-roaches, and silverfish also fall victim to PYREFUME'S tremendous "knock-down and kill" action. PYREFUME meets all standards of performance with power to spare. Its pyrethrins content is guaranteed through constant laboratory control. Freshly milled high-test flowers plus the addition of a special antioxidant assures stability. PYREFUME blends clearly with usual oil bases . . . stays clear as all sediment has been removed. It is singularly free from unpleasant odor . . . stainless.

ORDERED YOUR TICKETS YET?
A good time will be had by all at the Annual Drug, Chemical and Allied Trade Section Dinner. The Place: Waldorf-Astoria Hotel. Date: March 13, 1941.

PYREFUME PRICES HAVE HIT A NEW LOW

Write now for quotations

S. B. PENICK & COMPANY

132 NASSAU ST., NEW YORK, N. Y. 735 W. DIVISION ST., CHICAGO, ILL.

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

PYRETHRUM *in* MEDICINE

By Dr. Walter K. Angevine*

Medical Officer, Board of Public Welfare
District of Columbia

PYRETHRUM as an effective means of killing insect pests has been used commercially for a number of years. The fact that the active principles, pyrethrin I and pyrethrin II (cylic ketonic alcohol pyrethrolone esters with chrysanthemum - monocarboxylic acid and chrysanthemum-dicarboxylic acid methyl ester) are harmless to warm-blooded animals, including man, but extremely toxic to cold-blooded forms of life, has made pyrethrum the most desirable, if not the most efficient component of nearly every household insecticide.

The medical literature on pyrethrum is meager. It is significant, however, that those who have investigated its use have found its action spectacular, both as an anthelmintic and in the treatment of scabies.

There is little reference in the literature and no clinical information as to the use of pyrethrum in the treatment of phthiriasis, or infestation of one or more species of lice on the human body. These parasitic disease-spreaders are a bane to every army in the field, as may be recalled quite vividly by most World War veterans, and a problem to the medical staff of every large receiving institution for detention.

For a number of years the writer has been charged with medical administration in a large jail-type institution of the Federal Government. One of the factors vital to the high health standards maintained in these institutions is the establishment of a rigid sanative routine.

A recent survey of prisoners committed to jail in the District of Columbia reveals that nearly 7 per cent of those admitted suffer from one or more forms of parasitic infestation, and probably more than 2 per cent from scabies.

One of the orthodox treatments for these loathsome conditions is the application of mercurial, or blue ointment. Of course, this is a violent poison to man, and aside from its being unsafe for promiscuous use, its vermicidal action is slow and cumbersome. Large doses by inunction often cause inflammation to the hair follicles, and since there can be no question of the fact that mercury is absorbed, ptyalism may be caused just as certainly in that manner as by oral dosage.

These facts, together with the rather high percentage of cases, directed the writer's attention to the use of pyrethrum compounds. They augured the need of a more efficient preparation applicable to institutional use in particular, and compatible with medical therapeutics in general.

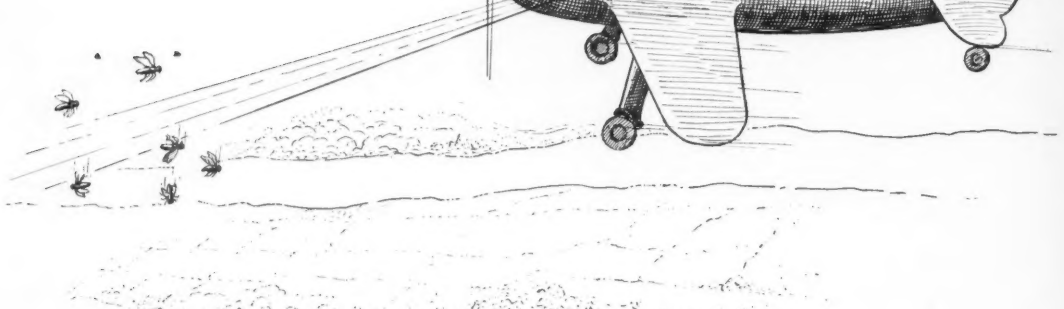
Through the cooperation of Dr. Alfred Weed and Messrs. Hoyer and Haude, associated with one of the larger pyrethrum manufacturers, the writer obtained for experimental work the jelly-like oleoresin of pyrethrum commonly produced when pyrethrum extracts are manufactured by the cold process. This jelly contains an extremely high percentage of organic waxes, fatty acids and resins, with an approximate total of 6 per cent pyrethrins.

To this substance petrolatum was added. It was noted that when the pyrethrum and petroleum jellies were mixed they exhibited a tendency to liquefy. On the theory that this was probably due to stearic changes, a special processing of the compound was necessary to restore its gelatinous character and to produce an unguent calculated to equal in toxicity a 20-pound pyrethrum concentrate. The finished product containing 2 per cent pyrethrins was called A-200 Compound.

This ointment is non-poisonous to man. It might be ingested without harmful reaction. In a series of tests large oral doses were administered to guinea pigs. No toxic effects were noted whatsoever. No changes were observed in the hemoglobin, urine and blood after large dosages, and the total of the pyrethrins fed to the pigs was recovered from the stools.

Following these experiments work was commenced upon those prisoners infested with vermin. It was observed that almost as soon as the A-200 Compound was applied the lice would curl and die within a few moments. Even when spread lightly over infested areas the tiny parasites which had burrowed into the skin would back out from their retreats and might be seen to convulse with paralysis. Since pyrethrum is a central nervous toxin to cold-blooded animals, death is preceded by paroxysms familiar to all who have watched its action. The eggs, which are usually extremely tenacious, immediately become detached from the hairs. On the whole, the action is almost instananeous and very decisive. A very important fact is that in more than two hundred cases, a single application has been sufficient to de-

* Reprinted by special permission from *Medical Annals*, January, 1941.



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louse the patient, and there is not one instance of contact dermatitis or skin irritation to report by the use of this compound.

This complete success in the treatment of phthiriasis with A-200 Compound suggested its use as a specific for scabies.

Sweitzer and Tedder (1935) and later Sweitzer alone (1936) conducted a series of experiments with an 0.75 per cent pyrethrinated ointment in the treatment of this disease. Their reports stress the importance of preliminary scrubbing and bathing, and declare that success or failure of the treatment depends upon the thoroughness of this operation.

Their reports show further that with an ointment containing 0.75 per cent pyrethrins, contact dermatitis developed in one case. In three cases of skin irritation patch tests were negative.

A total of 1,213 cases of scabies were treated by these investigators, 878 requiring from five to seven days and 283 from seven to fourteen days to complete the treatment. In 52 cases they found it necessary to use Wilkinson's (sulfur) Ointment, either on account of pustular involvement or poor cooperation. The pustular cases were not recommended by them for treatment with pyrethrum ointment.

In more than 70 cases of scabies treated by the writer with A-200 Compound, it has been determined that scrubbing and bathing is not essential to successful treatment, with no contraindications in pustular conditions as reported by the method of Sweitzer and Tedder. The most severe cases required no more than three applications of A-200 Compound, and in most instances lesions were found to heal after a single treatment. No recurrences have been noted, nor has there been a single case of dermatitis or skin irritation, notwithstanding the pustular conditions to which the ointment was applied. The fact that the lesions healed so rapidly offers conclusive evidence that the mites had been completely destroyed, thus removing the source of irritation. This rapid action might be explained by the greater concentration of pyrethrins in A-200 Compound, together with their more thorough dispersion in the base as formulated.

The excellent results achieved in these experiments might indicate that pyrethrum is deserving of further recognition in medicine, and a more thorough exploration of its possibilities would seem to be in order.

Sanitary Supplies and Defense

(*From Page* 99)

when not used, are stored on the ground. It is then transferred to 10-gallon milk cans and from thence emptied into either the cover of the can to be used as a wash basin by the men if the officers are not looking or else into the lister bag for distribution to the men.

As to flies, etc:—in one instance I was ordered to discover the cause of a severe out-break of dysentery. I inspected the entire regimental area and found all to be in good order. Across the road, however, from the regiment on private property was located a civilian operated road-side stand. It was unscreened. There was little or no refrigeration. There was no water supply other than that carried in buckets. The principal business was the dispensing of ice cream, soda pop in open bottles that had not been washed, hamburgers and hot dogs with rolls and butter and mustard on the counter uncovered. You must remember that this was during the summer when the temperature ranged up to 100 deg. in the shade.

Another instance, brought to my attention a situation where the boys from a certain barracks looked as though they had smallpox. An examination disclosed that they were suffering from bed-bug bites. The first thing that flashed through my mind was to burn the place down. On second thought, however, I resorted to the old formula of alcohol and sulphur candles with kerosene rags placed around all posts or tucked into every spot where I thought bugs could enter. The results were reasonably satisfactory. These are only one or two typical problems facing the Army and problems which the sanitary supply industry can consider and help to solve in a practical way with the right materials.

Theater Sprays

The main function of theater sprays is to deodorize the atmosphere, or rather to impart a refreshing odor. Such preparations should be inexpensive, neutral, and nonreactive with metal. Germicidal activity is desirable but not essential. These sprays are of three types: in alcohol, in sulfonated oil, and in soap emulsion. Typical alcohol sprays are:

		Parts
1.	Pine needle oil	10
	Formaldehyde	10
	Acetone	30
	Isopropyl alcohol	50
2.	Menthol, recrys.	3
	Tincture benzoin	5
	Cinnamon leaf oil	3
	Bornyl acetate	1
	Lemongrass oil	10
	Safrol	2.5
	Water, distilled	10
	Industrial alcohol	65.5

Highly sulfonated castor oil makes a good base, the better the quality of the sulfonated oil, the less required.

	Parts
Sassafras oil	1.5
Bornyl acetate	2.5
Pine oil, steam distilled	3.5
Rosemary oil	1.0
Spike lavendar oil	0.5
Geraniol	1.0
Sulfonated castor oil	60.0
Distilled water	40.0

For a soap-base spray, the following is satisfactory.

	Parts
Perfume oil (pine, etc.)	45
Oleic acid	3
Triethanolamine	1.5
Distilled water	50.5

Perfumery & Essen. Oil Record **31,** 344-5 (1940).

Mothproofing Products

By reaction of hydrofluosilicic acid with a guanidine, products are obtained which are suitable for mothproofing fabrics. L. J. Christmann and D. W. Jayne, Jr., to American Cyanamid Co. U. S. Patent No. 2,205,789.

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Bleaching in Soap Plant

(*From Page* 29)

of soap oils, but only in combination with cheaper earths and clays. Edible oils may, however, be bleached solely by the use of 3 to 5 per cent of activated carbon. The soapmaker is usually content to reinforce the bleaching properties of his Fuller's earth by adding just a trace of such carbons, which incidentally are in a state of extremely fine division and therefore call for the subsequent employment of a filter aid during the filtration process.

Richardson quotes a "process patented by Lever Bros.," in which the oil is treated with 4 per cent of Tonsil (an absorbent earth) which has been previously acidified with sulfuric acid, the mixture being heated to 95° C. for about 2 hours, with constant stirring. The earth is then filtered off and the oil subsequently heated to 245-285° C. under high vacuum. At the same time, superheated steam at 7 lbs. per square inch absolute pressure is blown in. The process is said to be completed after 2 hours' blowing.

The conversion of the small quantities of iron present in Fuller's earth into iron salts has been held to be of added advantage in the sulfuric acid-Fuller's earth process. A similar idea appears to lie behind the unspecified American patent cited by the *Allgemeine Oel und Fett Ztg.* (35, 138-40, 1938), in which cottonseed oil is said to be bleached with a mixture of Fuller's earth and an electrolyte such as ferric chloride, calcium chloride, sodium chloride, ferric sulfate, or potassium alum. These salts are claimed to coagulate colloidal colored material. The proportions used were 10 per cent of Fuller's earth and 1 per cent of electrolyte, based on the amount of oil, which was heated to 70° C. for an hour.

According to French Patent 582.263, oil is stirred for several hours at 95° C. with bleaching earth, then treated at 245-285° C. with superheated steam under decreased pressure, followed by cooling in the presence of air. At a pressure of 25 mm. free fatty acids and volatile substances are separated. Thus crude palm oil containing 4 per cent of free fatty acid is treated with 4 per cent of bleaching earth and stirred for two hours. It is then filtered and treated with superheated steam at 0.5 atmosphere pressure, until the content of free fatty acids decreases to 0.5 per cent.

According to U. S. patent 1,-111,095, bleaching of oils is accomplished with the aid of a mixture of absorption earth and sawdust. Incidentally, certain soapmakers have successfully carried out bleaching operations, on a commercial scale, in an open vessel in an atmosphere of carbon dioxide, instead of in the more conventional vacuum equipment.

THE third of the methods mentioned for the bleaching of palm oil, namely the bichromate process, as originated by Watts, was very effectively described by C. R. Kemp (in the article previously referred to) and need not, therefore, be dealt with here. All I would say is that the chrome process is capable of giving very good results with both palm oil and tallow. The plant required is inexpensive and there is little loss of oil. Care must, however, be taken to remove all the spent liquor, as otherwise the bleached oil will retain a very undesirable green coloration. Dilute sulfuric acid, and a mixture of sulfuric acid and common salt, have both been suggested for use in the chrome process, in place of hydrochloric acid.

Hydrogen peroxide and organic compounds such as benzoyl peroxide, and also the various persalts, find at present only limited application in the bleaching of oils and fats for soapmaking, chiefly on account of the low ratio of efficiency to cost.

Potassium permanganate has occasionally been preferred to bichromate for the bleaching of benzine bone grease. Kentgen stipulates from 3 to 4 kilos of permanganate to every 100 of fat, together with 8 to 9 times of the permanganate's weight of water. Every kilo of permanganate requires 2.5 kilos of hydrochloric acid (20° Baumé), diluted with its own volume of water. This process is also said to be used for sulfur olive oils.

Of all the more recent introductions, the organic peroxides appear to possess the most promising potentialities. Benzoyl peroxide, for example, is soluble in oils and can therefore be intimately mixed with the oil or fat to be bleached, water being unnecessary. In this way, loss of oil in waste liquors, etc., is eliminated. When warmed in oil, benzoyl peroxide decomposes readily into benzoic anhydride and free oxygen, finally forming benzoic acid, which may be removed by blowing with steam. Benzoyl peroxide may be stirred into the oil at about 80° C. until it is entirely dissolved, after which the batch is heated to 100° C. Using the recommended proportion of 0.1 to 0.2 per cent, bleaching is claimed to be attained in 15 to 30 minutes, leaving the fat quite clear from sediment. Cottonseed, peanut, corn, olive and sesame oils bleach well with benzoyl peroxide, but the process has been described as unsuitable for linseed oil, owing to the formation of a pronounced red-brown coloration. The early experience of Ludecke with benzoyl peroxide, in which he found that it resulted in superior olive oil soaps to those made from bichromate-bleached green sulfur oil, appears to be substantiated by the later work of Stossel (*Soap,* September, 1939), who successfully used such small proportions of the peroxide as 0.03 to 0.05 per cent in the bleaching of olive oil foots. Stossel, in fact, asserts that the benzoyl peroxide treatment of olive foots yields an oil that can be readily worked up into a white or ivory soap, although his subsequent remarks about "complementary colors" possibly reduces the value of this statement.

The application of hydrogen peroxide in high concentration as a bleaching agent for soapmaking fats has been described at some length by

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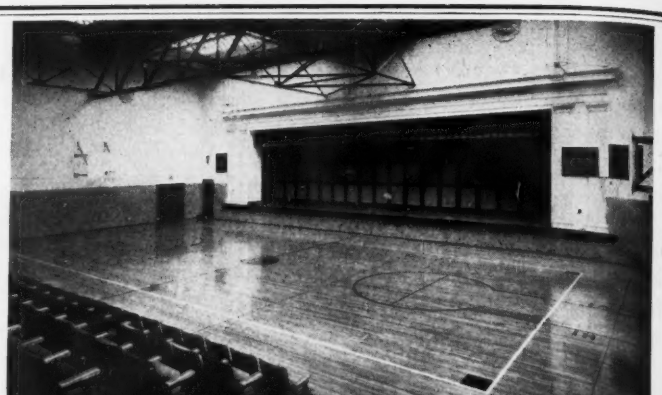

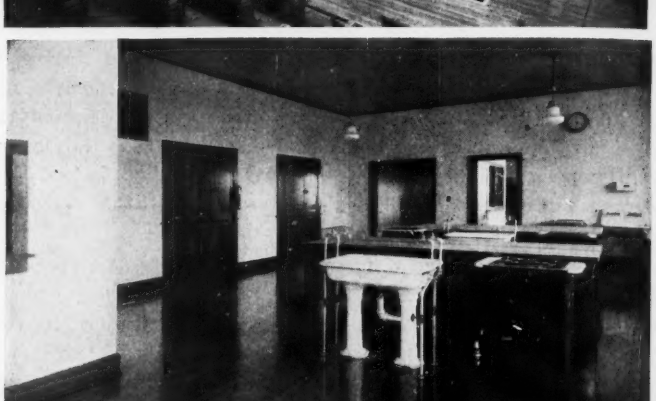

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the German chemist, A. Jordan. He states that good results are obtained in general with peanut, sesame and rapeseed oils (especially after the separation of impurities); also linseed oil, mixed extracted oils, whale oil, fish oils, tallow, animal fat and bone fat. Less favorable are the results with soybean, cottonseed, palm kernel and corn oils and lard. Crude castor oil and crude wool fat are unsuited for bleaching with this agent. Fatty acids are always more readily bleached than the corresponding fats from which they are obtained. The process should be carried out in apparatus that is impervious to hydrogen peroxide. Most metals are therefore unsuitable. Exceptions are aluminum, tin and vanadium steel, so that these metals can be used for the bleaching vessel. Other materials which can be used are earthenware, glass, porcelain, wood, and well-enamelled or glass-coated iron, or tin-coated iron in which the coating is free from flaws. According to the necessary degree of bleaching, from 0.5 to 2 per cent of 45 per cent hydrogen peroxide is said to be used. The operative temperature varies from 50 to 75° C. As is the case with benzoyl peroxide, appreciable after-bleaching during storage has been observed:—this point deserves further attention and elucidation.

With highly colored vegetable or plant oils whose coloring matter is very resistant to hydrogen peroxide, Jordan remarks that the bleaching process can be speeded up by adding to the oil about 1 per cent of a 70 per cent sulfuric acid solution. This is mixed in before the hydrogen peroxide is added. In these cases 0.5 per cent of the latter is usually sufficient. Another recent method for increasing the bleaching action of hydrogen peroxide is to stir into the fat a fat-soluble organic liquid. This enables the active oxygen to act more quickly on the dissolved coloring materials.

Potassium and ammonium persulfates and sodium hydrosulfite are chiefly used for the bleaching of soaps, rather than of oils prior to saponification, but mention should probably be made of bleaching with manganese dioxide. Thus E. T. Webb states that off-colored tallow may be more or less successfully bleached with the aid of pyrolusite, which contains 85 to 95 per cent of manganese dioxide. Sulfuric acid reacts with the dioxide, with liberation of oxygen. The hypochlorite bleaching of lower grade greases and tallows is probably too well known to call for any detailed description.

In concluding this section dealing with the bleaching of oils and fats, passing reference should be made to caustic treatment, the so-called pre-saponification beloved by the Germans, and the more intricate distillation and steam treatment. These, with the exception of the not very interesting pre-saponification treatment, are adequately described by C. R. Kemp (loc. cit).

IN cases of difficulty with bleaching, it is not a bad idea to consider exactly what changes are to be brought about in the oil under consideration. The colored impurities present may be natural coloring materials such as chlorophyll, erythrophyll or xanthophyll, or they may be substances produced by the action of heat on the oil, or metallic compounds derived from the containers during storage. Also, a crude oil is likely to contain fatty acids, mono- and di-glycerides, nitrogenous matter, moisture, carbohydrates, resins, traces of glycerol and aldehydes and ketones, and mechanical debris such as dirt, wood fragments, meal, fibre from press cloths, animal tissue, etc. Most of these are, of course, treated by refining means as distinct from bleaching, many oils requiring to be settled, strained or filtered, washed and so forth, prior to the commencement of any actual bleaching operations.

Wherever possible, it is preferable to bleach soap materials before saponification takes place, but in certain cases it is deemed desirable to bleach the soap "in the kettle." For this purpose, various bleaching agents have been proposed and utilized, including sodium hypochlorite, sodium hydrosulfite, ammonium and potassium persulfates, sodium bisulfite, and stannous chloride (tin crystals). The last mentioned reagent is not essentially a bleaching agent at all, but a remarkably efficient antioxidant that inhibits the dread tendency to progressive discoloration (*vide* the present writer's "*Soap Discoloration*," *Soap*, March, 1939.)

In a series of experiments with palm oil soap and potassium persulfate, 0.5 per cent of the latter was found to be the optimum concentration and 100° C. the optimum operative temperature. These workers, Kimball, Hosking and Snell (*Ind. & Eng. Chem.*, October, 1934) note that, since persulfate reacts during the bleaching process to give free acid, some alkali must be added to prevent decomposition of the soap and formation of free palmitic acid. As excess alkali might have some effect on the bleaching efficiency, the amount of alkali added was studied as a variable and runs made with varying quantities of sodium hydroxide present. These quantities varied from none at all to an amount ten times that equivalent to the sulfuric acid liberated by the amount of persulfate used. It is apparent that the bleaching effect remains unaffected either in the absence of alkali or in the presence of a small excess of alkali. A large excess, however, substantially decreases the bleaching efficiency. In the commercial use of persulfate for bleaching, it would therefore be necessary to control the amount of excess alkali rather carefully in order to obtain complete neutralization of liberated acid and at the same time avoid the use of a large excess of alkali.

At present, sodium hypochlorite remains the most popular soap bleach among English manufacturers. If the soap is properly bleached with hypochlorite, the statement by Paul I. Smith (*American Perfumer*, November, 1932) to the effect that "hypochlorite bleached soap frequently holds a trace of chlorine," is quite without foundation. In fact, the soap should not

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only possess no odor of chlorine, but should give no reaction to the starch iodide test. Bleaching soaps with hypochlorite is both cheap and efficient, and the bleach has no effect on the glycerine and unsaturated fatty acids present. Hypochlorite is now preferably, and simply, prepared as a solution of "4 per cent available chlorine," by bubbling chlorine gas from a cylinder into a solution of caustic soda. Dr. J. H. Wigner describes the bleaching process with commendable exactitude in his recently published work, "Soap Manufacture: the Chemical Processes." Sodium hydrosulfite also justifies attention, being both economical and efficient for the bleaching of practically all types of soap.

To conclude, I cannot do better than emphasize the necessity for guarding against rancidity and ensuring the utilization of non-discoloring perfumes. Improper choice of perfume materials may easily set at naught all the effort that one has expended upon the initial bleaching of raw materials, but fortunately this risk may be avoided by means of close cooperation with a reliable perfumery supply house.

—— ♦ ——

Auto Cleaning

(*From Page* 32)

cleaning engine blocks and parts upon which grease accumulates, more powerful action is needed. The deposits of oxidized grease and motor oil mixed with road tar and dirt are difficult to remove unless a grease-emulsifying agent is used. Many of these special degreasing compounds have appeared on the market during recent years, usually in the form of a concentrate which is diluted with kerosene or fuel oil before being used. These degreasing concentrates are apparently used more prevalently for cleaning motors, chassis, and running gear than are the dry alkaline cleaners which do not have the selective solvent action of the special cleaners and are prone to remove the protective paint from the chassis and gear along with the grease. Some of the special concentrates are suggested by the manufacturers for washing car bodies when diluted about 50 to one with kerosene or other light oil. They do not seem to be used very widely for this purpose, however, as many car washers feel that the use of kerosene or other solvent on car bodies is detrimental to the finish. This is particularly true in cases where the body has previously been waxed with preparations containing paraffin. For real heavy-duty cleaning jobs, the special degreasing compounds are unexcelled, according to the comments of those who have used them. They have a high solvent action on heavy mineral grease and do not affect the painted surfaces to which the grease adheres. As they contain emulsifying compounds as well as cresylic acids, creosote and other coal-tar oils, naphthenic acids or sulfonate residues, they are miscible with both water and kerosene. In cleaning an engine block, the degreasing concentrate is commonly diluted in the proportions of about four to one and then either painted or sprayed on the grease laden parts where it is permitted to "soak in" for a longer or shorter time depending on the depth and type of accumulation. Then grease, special compound, kerosene, dirt and all can be flushed off with a stream of cold water, because of the solvent-emulsifying properties of the compound. In case there remains behind a small residue of the kerosene or other mineral oil solvent, this is not objectionable on motor parts or chassis.

Actually the heavy-duty emulsifiable solvent cleaners find their widest use in the automobile field as cleaners for motors and parts. While they are recommended as floor cleaners, other materials are more commonly used at present in this field at least. Alkali cleaners, trisodium phosphate, sodium metasilicate, and other similar products are used in preference to the emulsion cleaners, probably on account of their lower cost and because there is less bother in making up kerosene solutions, etc. In gasoline service stations, it is still more common to find that operators use no special floor cleaning product at all but just take a gallon or so of gasoline out of the pump and use that for their floor cleaner. "Why," they ask, "should we buy a special compound for cleaning the floor when we have the best solvent in the world right here in our pumps?"

Fundamentally, a study of the field has shown that the people engaged in washing cars as a business, whether for individual customers or for fleets in company service garages, are extremely skeptical about the value of any cleaning product. That is, until they are shown conclusively that they can do a job faster, safely, and more economically by using it. If they can get away without using any cleaning product on a job, they are more than satisfied, hence the present trend toward high-pressure jets for knocking dirt from automotive equipment and using only water for washing automobiles.

As shown by the ready acceptance of the newer type auto washes and emulsion cleaners, however, this field is potentially an enormous market for cleaning preparations which are suitable for the actual needs of the car washing personnel,—providing the price is right.

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Insecticidal properties and possibilities of the fatty acids . . . their potential value and use in both agricultural and household insecticides . . . to be discussed fully in a feature article in the next issue by Dr. E. G. Thomssen and Dr. M. H. Doner.

—— ♦ ——

Phenol Disinfectant

The solubility of halogenated phenols in soap solutions is increased by the addition of 3-4 per cent of a trivalent phosphate compound. G. Endres. German Patent No. 680,439.

—— ♦ ——

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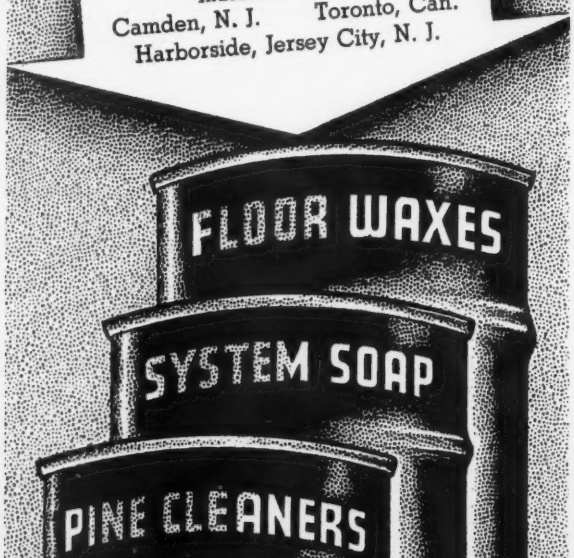

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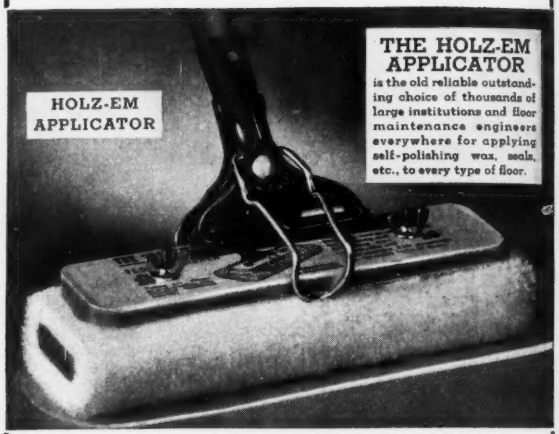
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NEWS...

Boyle Co. Completes New Plant

The Los Angeles branch of A. S. Boyle Co., a subsidiary of American Home Products Corp., Jersey City, N. J., has just completed a new $150,000 plant, covering 50,000 square feet of space, for the manufacture of the Boyle line of insecticides, glass cleaners, floor waxes, polishes and household cleaners. The operations of Antrol Laboratories, purchased last year by A. S. Boyle Co. and Midway Chemical Co., will be handled in the new building. R. S. Covert, former president of Antrol Laboratories, who will remain in charge of the Pacific Coast operations for the Boyle company, has announced plans for an extensive advertising campaign on the Coast including merchandising and dealer service. About 50 persons will be employed in the new plant.

Register Insecticide Solvent

The name "Indalone" was recently registered by U. S. Industrial Chemicals, Inc., N. Y., as the trade name of the solvent, α, α-dimethyl-α-carbobutoxy-λ-dihydropyrone, formerly marketed under the name "Dihydropyrone." Said to possess high repellency, "Indalone" was developed for use in liquid contact insecticides as a solvent for derris root extracts.

Polish Mfr. Asks Charter

John C. Stalfort & Sons, Inc., Baltimore, manufacturers of automobile polish and other chemical products, recently filed with the State Tax Commission a petition for the revival of its charter.

Dougan Retires from Merck

Peter Dougan, who had been associated with Merck & Co., Rahway, N. J., for more than 24 years, retired recently from active duty. Until his retirement, he had been engaged in the promotion of industrial disinfectants. He was also president of Home Products, Inc., and, back in 1933-34,

PETER DOUGAN

during the days of the blue eagle and the N.R.A. code, had served as president of the National Association of Insecticide and Disinfectant Manufacturers. At the time of his retirement, Mr. Dougan was presented with a scroll signed by 133 of his coworkers.

Describes Insect Repellents

M. A. Lesser, writing in the February issue of *The Drug and Cosmetic Industry*, describes and discusses a number of insect repellents and includes a series of formulae together with remarks on their specific effectiveness.

Sanitary Suppliers Meet Apr. 21

The National Sanitary Supply Association will hold its next annual convention at the New Hotel Jefferson, St. Louis, April 21 to 23, according to announcement from E. C. Kratsch, Milwaukee, secretary of the organization. Paul Logue, of Monsanto Chemical Co., St. Louis, has been scheduled for an address on "Wetting Agents and Synthetic Detergents," while other speakers will discuss disinfectants, insecticides, rug shampoos and acid cleaners. Office building maintenance, hospital sanitation problems, sales problems and other industry topics are also slated for consideration by speakers to be announced later. Louis Herzog, head of Riddiford Bros., Inc., Chicago, and president of the association, will relate his company's experience with profit sharing as instituted at Riddiford's a year ago. A trade exposition will be conducted in connection with the meeting, Mr. Kratsch stated, and an elaborate entertainment program is being planned by St. Louis members of the arrangements committee.

N. Y. City Bid Data

In order to establish responsibility as a bidder on materials to be supplied to the City of New York, the Department of Purchase of that city has issued to all firms who bid on city business a four-page form which calls for many intimate details of the supplier's business, including names of officers, names of best customers, years in business, financial details, bank references, number of employes, etc., all to be sworn. This new form has been received by firms supplying soaps, disinfectants, insecticides, etc., some of whom have refused to fill them out because of the confidential nature of the information asked for. The Department of Purchase has issued a statement that failure to return the form in ten days will result in removal of the bidder's name from the eligible list.

Strohmeyer & Arpe Elect

Arthur H. Hoffman was elected president and treasurer of Strohmeyer & Arpe Co., New York, importers, at a recent meeting of the company. Other officers elected were Walter A. Benz, vice-president and secretary, and Alfred F. Drucklieb, assistant secretary.

Refining, Inc., Moves South

Refining, Inc., formerly located at Long Island City, N. Y., recently moved to its new office in Charlotte, N. C. The address is 2130 North Tryon St.

Noted Bacteriologist Dies

G. L. A. Ruehle, senior bacteriologist of the insecticide division of Agricultural Marketing Service, U. S. Department of Agriculture, Washington, D. C., died recently at the age of fifty-six years. Mr. Ruehle was a native of Minnesota and received his college education at the University of Washington, Cornell University and Michigan State College. He served successively as assistant bacteriologist at the New York Agricultural Experiment Station from 1911 to 1918, as assistant professor of bacteriology at Michigan State College from 1918 to 1926 and professor of bacteriology at the University of Idaho from 1926 to 1929, when he resigned to join the insecticide division of the U. S. Food and Drug Administration.

New Stauffer Nico-Dust Plant

Construction was recently begun on a new $75,000 insecticide factory by Nico-Dust Manufacturing Co., a division of Stauffer Chemical Co., Los Angeles. Housing new equipment for the manufacture of the company's complete line of agricultural insecticides and fungicides, and a new entomological laboratory, the steel and concrete building will measure 90 x 180 feet, part of which will be three stories high. Completion of the work is expected early in May.

Enter Raticide Stipulation

D. B. Smith & Co., Utica, N. Y., recently entered into an agreement with the Federal Trade Commission in which they stipulated to cease advertising that "Jim Dandy Rat and Mouse Killer" will kill moles, gophers and other rodents, except rats, wharf rats and mice; that it positively stops waste caused by rodents; and will rid homes, barns, poultry houses, other buildings and fields of rodents.

NOPCO Shows Record Earnings

Net profit of $704,967, equal to $3.92 a common share, was recently reported for the year ended Dec. 31, 1940, for National Oil Products Co., Harrison, N. J. The 1940 earnings of the company were the largest in its history, it was said, topping the record net profit for 1939 of $700,401, or $3.90 a share.

Am. Drug Answers Complaint

Charged by the Federal Trade Commission with misrepresentation of its drug products, American Drug and Chemical Co., Minneapolis, has filed an answer in which it claims that its products "Chloro-Zol" and "Germ-I-Tab" constitute competent and effective antiseptics and germicides and are a reliable means of feminine hygiene. According to the FTC, the products possess antiseptic properties of a low toxicity and are not effective germicides. The answer states that the products contain chloramine-T and are antiseptic and germicidal in solutions of ½ per cent or stronger as used in the cases indicated. Other items of the FTC complaint were admitted. Hearing will be held.

Offer New Blending Agent

A new base, known as "KEMulsion Base A A", for blending with essential oils and aromatics to make them soluble or self-emulsifying in water, has just been put on the market by Kem Products Co., Newark, N. J. Recommended for use in preparing theater sprays, disinfectants and insecticides, the new product is said to be a clear, neutral, odorless, oily liquid which is almost water-white. It is used in the proportions of 0.5 to 3.0 pounds of base per pound of aromatic depending on requirements.

Bombing Creates Rat Problem

The continual bombing of England has produced a rat plague of increasingly serious proportions, it is reported from London by David Anderson, special correspondent to the *New York Times*. One sidelight of the recent fire bomb attack on the oldest district of London, was a statement that flames reducing scores of buildings still left some 250,000 rats alive. Presumably countless numbers of them fled from the ruins to find new homes.

Rohm & Haas Buy L. A. Site

Rohm & Haas Co., Philadelphia, has recently acquired approximately 15 acres of land in Los Angeles upon which a factory is to be erected. The first building will be a 30,000 square-foot, one story factory structure and office scheduled for completion in the early spring. When in full operation, it is said, it may employ over 50 persons.

Antiseptic Maker Dies

Eugene A. Fisher, for the past ten years engaged in the manufacture of "Fisher's Antiseptic Household Fluid," died February 16 at his home in Newark, N. J., after a long illness. The business is being carried on by his wife, Mrs. Edna R. Fisher.

M. M. & R. Appoint Coast Mgr.

Magnus, Mabee & Reynard, Inc., New York, have appointed Edwin W. Redding as manager of the Pacific Coast area, it was announced recently. Mr. Redding will be in charge of all sales activity for the territory west of Denver. A graduate of the University of Colorado, he had previously been associated with Sharp & Dohme and Owl Drug Co., prior to joining the M. M. & R. staff. New west coast headquarters are to be announced in the near future as part of the company's plans for expansion.

New Opitz Wall Chart

A wall chart illustrating and describing 24 "Common and Unusual Household Pests" is being distributed by John Opitz, Inc., Long Island City, New York. Illustrations have been taken from several sources. Included are recommendations for treatment and control of the pests.

Anchor Advances Baumgardner

F. H. Baumgardner, formerly an assistant sales manager of the container division of Anchor Hocking Glass Corp., Lancaster, Ohio, was recently appointed manager of the Chicago office of the company. He succeeds G. J. Graham who has been transferred to Lancaster. E. Wells becomes an assistant sales manager.

Hockwald Opens L. A. Branch

Hockwald Chemical Co., San Francisco, recently established a branch in Los Angeles under the managerment of A. H. Brown, former resident manager of the Los Angeles office of West Disinfecting Co., Long Island City. Mr. Brown had been a traveling representative for the West company over a period of 15 years before settling in Los Angeles. Associated with him in the Hockwald branch are Jack Frame and I. Hittleman who were also connected with West Disinfecting Co. during the years Mr. Brown was branch manager. The Hockwald company has other branch offices in Fresno, Sacramento and Honolulu.

Koppers Shifts Personnel

Directors of Koppers Co., Pittsburgh, recently elected W. F. Munnikhuysen vice-president of Koppers Co. and general manager of the wood preserving division. Mr. Munnikhuysen formerly served as president of Wood Preserving Corp. H. R. Condon and E. J. McGee, formerly vice-presidents of Wood Preserving Corp., were elected vice-presidents of the Koppers wood preserving division with all offices located in Pittsburgh.

N. Y. Exterminators Meet

The Professional Exterminators' Association of New York City held its regular monthly meeting on February 10 at the Hotel Commodore, New York. Meetings are held on the second Monday of each month.

Sanitation in Bomb Shelters

The British Ministry of Health is now taking measures to disinfest and disinfect the air raid shelters of England in which hundreds of thousands of the civil population are forced to spend many hours almost every day. To combat the prevalent inefficient ventilation, crowded conditions and dust which foster the spread of vermin and germs, medical officers are using mobile disinfecting units for cleansing shelters. A large number of materials have been tested and there is now an approved list of vermin killing agents. Both derris root and pyrethrum compounds are recommended as being particularly useful for shelters and an organized system of prevention and cleaning has been adopted for fighting bedbugs. In some of the large shelters, mist sprays of an insecticidal or disinfectant solution are used every three or four hours.

"Blue Cross" Stipulation

General Laboratories, Inc., Des Moines, recently entered into a stipulation with the Federal Trade Commission in which it agreed to discontinue using the word "Laboratories" in its trade name until such time as it shall own or control an adequate laboratory. The company further agreed to cease advertising that "Blue Cross Rat Killer" will prevent rats from destroying baby chicks; that the product is recommended by the United States Government; that it will kill rats instantly; that it will rid rat-infested areas of rats, is the most effective poison on the market and that rats will not die on the premises.

Liquid Insecticide

An insect killer and insect repellent consists of a mixture of 10 parts of allyl mustard oil or less and 90 of trichlorethylene or more. A mixture of dichlorethylene and perchlorethylene may be added to the trichlorethylene. Hans Haag. British Patent No. 512,322.

Form Odopine Labs. in Fla.

Odopine Laboratories, a new company manufacturing "Odopine," a powder cleaner, was recently established in Tampa, Fla., by Burton Schoepf, president of the company. Some thirty saleswomen are at present engaged in introducing the new product. Mr. Schoepf, incidentally, was a candidate for governor of Florida in the 1940 election.

Whiz Appoints Westerman

Samuel R. Westerman was recently appointed by R. M. Hollingshead Corp., Camden, N. J., as field representative in the Pittsburgh area.

White Speaks in Philadelphia

On the occasion of the 120th anniversary of the founding of Philadelphia College of Pharmacy and Science, Robert C. White, city comptroller and president of Robert C. White Co., Philadelphia, gave an address at the mid-winter alumni reunion dinner of the college. Mr. White, who has long been prominently identified with the activities of the National Association of Insecticide and Disinfectant Manufacturers, was at one time a member of the faculty of the college.

Sav-Mor Products Moves

Sav-Mor Products Co., manufacturer of soap dispensers, has recently moved to new quarters at 78 Greene St., New York. The company was formerly at 621 Broadway, same city.

Propylene Glycol as Germicide

The use of an odorless, unnoticeable mist of propylene glycol as a means of preventing the spread of air-borne diseases in places where people must be crowded together is reported by Drs. O. H. Robertson, Edward Bigg, Benjamin F. Miller and Zelma Baker, of the University of Chicago Medical School, in a recent issue of *Science*. The germ-killing effect of the mist was tested both by spraying it onto bacteria and by spraying bacteria into the mist.

Survey Chicago Chemical Mfrs.

Chicago chemical concerns located in heavily populated business districts will be forced to move to isolated areas if a block-by-block canvass instituted by police authorities reveals that their activities involve hazards to life or surrounding property. The order for the survey was issued Feb. 12, following an explosion and fire in the plant of Edwal Laboratories at 732 Federal Street, close to the downtown business district. Three men were killed, ten persons injured and surrounding property was damaged by the blast whose origin was attributed to explosion of a pressure cooker used to reduce mustard oil. Heading the coroner's jury

FEDERAL

The Original

GYM FINISH

LAUGHS *at Slipping, Sliding, Running, Jumping Shoes*

•

It's made to withstand the roughest treatment

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GYMS *everywhere* **PREFER IT**

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TRY FEDERAL ON YOUR NEXT JOB

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Send for Literature

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Send for Book on How to Prepare and Finish Floors—Free
Write us about your floor problems.

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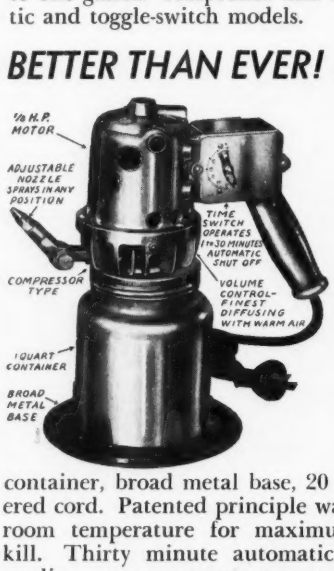
9 *DIFFERENT* BREUER *ELECTRIC SPRAYERS*

The Right Sprayer For Every Customer

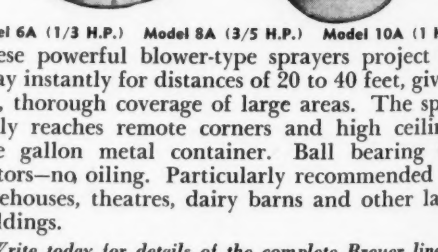
Whether your customer needs an economical sprayer for the occasional small job, or a powerful machine for daily spraying in a great warehouse, there is a Breuer quality sprayer which exactly fits his needs. The nine Breuer Models include sizes from 1/8 H.P. to 1 H.P.—capacities from one pint to one gallon—compressor and fan types—automatic and toggle-switch models.

BETTER THAN EVER! MODEL 54


1/8 H.P. MOTOR
ADJUSTABLE NOZZLE SPRAYS IN ANY POSITION
COMPRESSOR TYPE
1 QUART CONTAINER
BROAD METAL BASE
TIME SWITCH OPERATES 1 TO 30 MINUTES AUTOMATIC SHUT OFF
VOLUME CONTROL-FINEST DIFFUSING WITH WARM AIR

The most popular model in the TORNADO line has now been made more convenient, practical and efficient than ever. It has a husky GE Motor, adjustable nozzle, air volume control to regulate density of spray, one-quart metal container, broad metal base, 20 ft. of rubber covered cord. Patented principle warms liquid above room temperature for maximum diffusion and kill. Thirty minute automatic time switch. A quality compressor-type sprayer at low cost.

FOR LARGE AREAS



Model 6A (1/3 H.P.) Model 8A (3/5 H.P.) Model 10A (1 H.P.)
These powerful blower-type sprayers project the spray instantly for distances of 20 to 40 feet, giving fast, thorough coverage of large areas. The spray easily reaches remote corners and high ceilings. One gallon metal container. Ball bearing GE Motors—no oiling. Particularly recommended for warehouses, theatres, dairy barns and other large buildings.

Write today for details of the complete Breuer line and our liberal discounts to the insecticide industry.

BREUER ELECTRIC MFG. CO.
5118 N. RAVENSWOOD AVENUE CHICAGO, ILLINOIS
We do not sell insecticides. Our business is manufacturing sprayers. Patented in U. S. A. and Foreign Countries.

of chemists impaneled to investigate the disaster is William F. Henderson, chairman of the Chicago section of the American Chemical Society. The jury expects to check up municipal methods of regulating chemical enterprises generally and from the data which may be developed a plan will be devised that will prevent repetition of similar explosions in business areas.

John Powell Operated On

John Powell, head of John Powell & Co., New York, and treasurer for many years of the National Association of Insecticide & Disinfectant Manufacturers, was operated on for hernia, February 28th, at the Mountainside Hospital, Montclair, N. J., after flying back from Mexico City where the attack first occurred. He was expected to remain at the hospital for at least two weeks.

Noxon Founder Dies

Ralph L. Nottebaum, 69, president and founder of Noxon, Inc., and Noxon Chemicals, New York, died February 27, at his home in Short Hills, N. J., after a brief illness. Mr. Nottebaum was born in Cologne, Germany, 1871. He came to the United States in 1912 and ever since had been actively engaged in the chemical industrial field. He was the originator of the "Noxon" products including metal polish, floor waxes, and insecticides. His son, Ralph L. Nottebaum, Jr., is now head of Noxon, Inc.

Detroit Supply Co. Moves

Detroit Chemical Supply Co. moved to a new location at 1900 East Jefferson Ave. on February 1. Mixing facilities of the company have been greatly increased, it is reported.

Synthetic Insecticide

High cost of pyrethrum, uncertainty of supplies, and unsuccessful attempts to grow the crop commercially in this country have given impetus to the search for new insecticidal compounds. Tests with a number of fatty acid derivatives showed amines to be promising, and dioctyl amine to combine a number of desirable properties with a high knockdown and kill of houseflies. Its solution proves to be non-irritating when sprayed and free from objectionable odor. A 4 per cent solution of dioctyl amine in petroleum is a highly effective insecticide against not only the housefly, but also against roaches, carpet beetles and mosquitoes. Nontoxicity to domestic animals makes this compound a possible substitute for pyrethrum. A. W. Ralston, J. P. Barrett and E. W. Hopkins. *Oil & Soap* **18**, 11-13 (1941).

Miss America of 1940, Frances Burke (phone number not available) smiles prettily for Stewart Hollingshead, vice-president of R. M. Hollingshead Corp., Camden, N. J., left, and William F. Plowfield, director of industrial sales, at the 1940 convention of the Automotive Service Industries in Chicago where R. M. Hollingshead exhibited.

Study Grasshopper Baits

Included in the 53rd annual report of the Nebraska Agricultural Experiment Station, Lincoln, Nebr., is a brief progress report on results of investigations of poison baits for exterminating grasshoppers. Forty-five different attrahents were tested, including 29 volatile organic compounds, mostly essential oils, eight fruit and vegetable parts and eight heavy oils and sweets. Using untreated bran as a check, with the value of 100, one attrahent—amyl acetate — long used in grasshapper baits, showed an average efficiency of only 78 per cent and in only one of six tests was its efficiency greater than that of the untreated check.

Attrahent materials making a definite and consistent improvement in baits treated with them included the following, with their ratings as compared to untreated bait: Oil of French pennyroyal, 235; oil of citronella, 193; lemon rind, 187; linalool, 152; oil of bay leaf, 149; garlic juice, 141; oil of catnip, 131; oil of American pennyroyal and oil of pineapple, both 126; and onion juice 123. Materials failing to average consistently better than the plain bran mash or that showed one or more low ratings, were listed in the report as follows: acetophone, beta ionone, butyric acid, eucalyptus oil, eugenol, geraniol, lactic acid, lemon oil, linaloe, methyl benzoate, oil of mustard, para cresol phenol acetate, oil of peppermint, phenol ethyl alcohol and oil of sweet orange.

"It is interesting," says the report, "to observe the high attrahent ratios when used in grasshopper baits, of pennyroyal oil and oil of citronella, both of which are strongly repellent to mosquitoes and small flies . . . None of the baits treated with heavier oils, (corn oil, linseed oil, lubricating oil, etc.) or with sweet materials (honey, corn syrup, cane molasses, etc.) showed a consistently high rating. All but corn syrup had ratings less than for plain bran."

Robbins Disf. Co. Moves

George B. Robbins Disinfectant Co., formerly of 60 Long Wharf, Boston, has just moved to 42 Carlton St., Cambridge, Mass.

FOR YOUR SPRING CAMPAIGN—

we recommend:

SPECIAL
MOTH SPRAY

Here is an efficient moth insecticide. One which you can recommend and sell under your own name and brand. Get acquainted with this Spring profit-maker now.

INCLUDE THESE WANTED ITEMS
- SELF POLISHING FLOOR WAX
- CREAM FURNITURE POLISH
- RUG UPHOLSTERY CLEANER
- KLEEN-AIRE SPRAY

MANY MORE FAST SELLING AND PROFITABLE ITEMS CAN BE SUGGESTED

Write for the complete story.

THE CHEMICAL SUPPLY CO.

2450 CANAL ROAD
CLEVELAND OHIO

"Your Most Logical and Economical Source of Supply"

Reilly COAL TAR PRODUCTS

FOR THE SOAP AND DISINFECTANT INDUSTRY

CRESOLS
CRESYLIC ACIDS
TAR ACID OILS
XYLENOLS
NAPHTHALENE

Also REILLY Bonded Roofing and Waterproofing materials for your plant; REILLY CREOCOTE paints for creosoted wood block floors and other creosoted surfaces; REILLY Protective Coatings for structural steel, tanks, pipe lines, water conduits.

15 PLANTS...

REILLY TAR & CHEMICAL CORPORATION

To Serve You

1627 Merchants Bank Bldg., Indianapolis, Ind.
500 Fifth Ave., New York
2513 S. Damen Ave., Chicago

(*From Page* 93)

take in the following seven points of quality—each of equal importance.

1. Gloss
2. Chemical composition
3. Toughness of film
4. Water resistance
5. Slip hazard
6. The legal aspect
7. Balance of film

We still have to consider this last subject "Balance of film," for we must keep in mind that it would be a rather simple matter for a wax manufacturer to put together a product that was aimed at non-skid and nothing else and have that product head and shoulders above his competition inasfar as those non-skid features alone were concerned. However, we must remember that regardless of how important this subject of non-skid becomes, there are still other features that must be expected of an economical floor wax—an ability to resist rather than attract dirt, a reasonable wearing quality, etc.

Again, a water emulsion wax could be made so high in water resistance that this point alone could become a drawback rather than an asset, for a floor wax must be a product that is not only easy to apply but easy to clean up when one reaches that point in his maintenance program when he should strip off all of the old wax in preparation of a new foundation. The correctly balanced wax must have that quality of water resistance that will prevent it from damage against normal abuse by water, but it still must be so made as to lend itself to easy removal with ordinary cleaning material and ordinary cleaning methods when one so wishes to remove it.

With two products side by side on the same surface, we are not only in a position to make an intelligent decision as to their non-skid characteristics. We can also see if the manufacturer has a well balanced product and has not given so much attention to the non-skid character of his particular brand that it is a tacky material which will catch dirt, track off onto other surfaces and demand reapplication time after time. The ideal material has all of the above mentioned seven qualities that go to make up a well-balanced, economical yet *non-slippery* film.

The Buyer's Problem

THE question arises, how is the consumer to find out which brand he should buy? I would say that the safe thing for the consumer to do is to insist that the manufacturer or the salesman actually *prove* that his material is higher in water resistance and higher in slip resistance, etc., before placing the order. If the manufacturer or his agent fails to jump at the opportunity of proving these points against competition, then find someone who will have sufficient confidence in his own material to put it on a floor side by side with some other brand and undertake to furnish this proof.

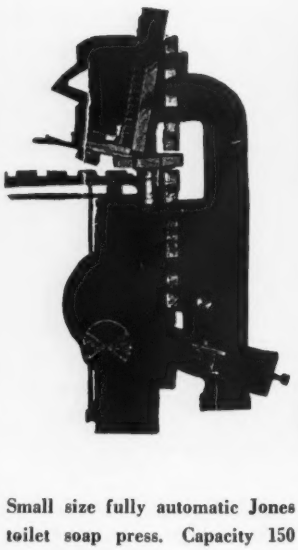
Next, if I were a small user, I believe I would be willing to gain by the experience of larger users, who have had so much water emulsion wax to buy that it became a real factor to them, who could take the necessary time to investigate the properties of one brand against another. I would choose those larger consumers who would be most apt to give real attention to such subjects as slip hazard. For example, I would choose some of the large casualty insurance companies because I would assume that a casualty insurance company would be more vitally interested in the subject of slip hazard than anyone else. In many cases their engineers have studied this subject of coefficient of friction as it pertained to floor waxes and are in a position to pass along some interesting and valuable information to a fellow like myself. I would be particularly insistent upon receiving some expression from that particular casualty insurance company who carried my own insurance, because I would certainly be in a much stronger position if I had an accident on my floors after having taken this matter up with them than before having mentioned it.

Next, I would insist, since there exists so much confusion within the wax manufacturing industry itself, that if a manufacturer wanted to sell me, he would have to show me in black and white some actual confirmation of his claims for a non-skid quality—this confirmation to be one made by an absolutely disinterested, impartial and independent laboratory of reasonable standing.

Last but not least, I would recognize the possibility that a company might be able to make a non-skid wax which at the same time might be harmful to my floors. As I would recognize rubber floors as being ones that certainly would stand less abuse than linoleum, asphalt tile, hardwood, etc., I believe I would insist that the manufacturer who was serving me would prove to me that the chemical composition of his product was sufficiently mild as to allow the Rubber Flooring Mfgrs. Association to pass their approval on it and this even though I did not have a rubber floor in my establishment.

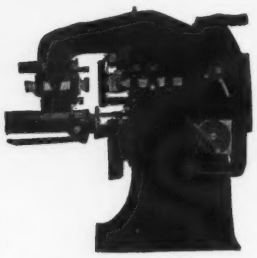
To sum up, as a consumer, I would refuse to believe that "pigs is pigs" in the wax industry. I would recognize the fact that there must be a vast difference between the quality of one brand and another even though I found half a dozen different manufacturers advertising in practically the same words. I would remain in the position of a layman rather than assume that I had sufficient technical experience of my own to "separate the wheat from the chaff." So, my future choice as a buyer would be based on following the lead of a large organization in whom I had considerable confidence, or in saying to those salesmen who solicited my business —"Here is my floor. Put your wax down here, your competitor's wax side by side on the same floor with it at the same time and let's see which one of them can actually live up to its advertised claim, and then show me some proof in black and white that your product will not harm my floors and that your statements for safety are confirmed by a recognized and disinterested authority."

Special Offerings of SOAP MACHINERY *Completely Rebuilt!*

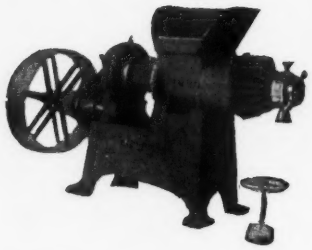


Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.

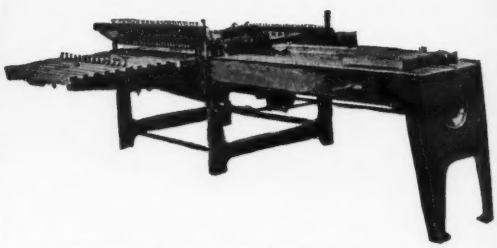
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables.

INVESTIGATE THESE SPECIAL BARGAINS

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Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

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ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

- H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H-A Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

Send us a list of your surplus equipment—we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 WEST 35th STREET, CHICAGO — Phone Yards 3665-3666

Our Forty Years Soap Experience Can Help Solve Your Problems

CLASSIFIED ADVERTISING

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Man with 16 years practical experience manufacturing potash oil soaps; U.S.P. green soap; olive oil soap base; coconut oil soap bases; liquid soaps; shampoo; floor scrub soaps; shaving cream; hard auto soap; coal tar disinfectants; cresylic disinfectants; pine oil disinfectants; auto cleaner; auto polish and cleaner (paste and liquid); wax auto polish; furniture polish; metal polish; silver polish; window, mirror and glass cleaner (liquid); mechanic's hand paste; fly spray; moth spray; bedbug and roach exterminator (liquid); sweeping compounds; modified alkali compounds for glassware; bottlewashing, dishwashing (hand and machine); sterilizing compounds, scouring compounds; detergents for ceramic; tile, terrazzo and marble floors; silverware cleaner; boiler compounds; soap powder. Can take charge of plant. Excellent references. Progressive, capable and trustworthy. Married. Address Box No. 993, care *Soap*.

Soapmaker: Man with 30 years experience superintendent soap plant in Europe, capable of supervising the manufacture of all types of soaps, desires connection with American firm. Age 50 years, in robust health; best recommendations. For further details, communicate with Box No. 983, care *Soap*.

Chief Chemist of specialty concern, desires new connection. Experienced in factory management, research, auto and household specialties. Own excellent formulae. Address Box No. 988, care *Soap*.

Sales Manager for a national firm in the soap, disinfectant, insecticide and sanitary supply business desires a connection where I can build my own sales organization in the south for a well rated firm, experienced at employing and training salesmen. Address Box No. 989, care *Soap*.

Soap Salesman—Man with 15 years' experience with one leading supplier of bulk soaps, selling to laundries, institutions, convertors, etc., desires to make a new connection in the sales department of a progressive modern soap and detergent manufacturer. Excellent sales record. For further details, communicate with Box No. 992, care *Soap*.

The Go-Ahead Sign for 1941

CONSOLIDATED
Rebuilt Equipment

Serving Industry for 24 Years

SELECTED SPECIALS

2—Pneumatic Scale Carton Packaging Units.
1—Sargent 54" x 72" single Chilling Roll.
2—Proctor & Schwartz Soap Chip Dryers, steel frame; 1 with single cooling roll.
1—Houchin Para Block Press, with sliding die.
3—Soap Foot Presses.
2—Jones Vertical Automatic Soap Presses.
1—Jones Horizontal Automatic Soap Press.
3—Houchin Plodders, 10", 8".
2—Automatic Soap Wrapping Machines.

Crutchers	Foot and Automatic Soap Presses	Filter Presses
Soap Kettles	Cutting Tables	Soap Frames
Powder Mixers	Pulverizers	Powder Fillers
Granite Mills	Soap Pumps	Labellers
Plodders	Soap Chippers	Tanks
Slabbers		Boilers

Send for New Illustrated Circular

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW NEW YORK, N. Y.
BArclay 7-0600 Cable Address: Equipment
We buy your idle Machinery—Send us a list.

3 NEW—*Outstanding*
SCIENTIFICALLY TESTED—
WATERPROOF • SELF-POLISHING

FLOOR WAXES

Now available for the JANITOR SUPPLY and JOBBING TRADE.

- Made right—for profitable business—can be had in bulk or in containers—under your own private brand
- Let us prove our statements regarding these three "best seller" grades. Write for free samples or for demonstration.

Empire Chemical Products Co.
12 LONGWORTH STREET NEWARK, N. J.

WE ALSO MANUFACTURE

Liquid Floor Soaps	Metal Polish	Gym-Finish
Rug Shampoo	Disinfectants	Paste Wax

SOAP DIES and MOULDS

—for—
TOILET SOAPS
LAUNDRY SOAPS AND
BATH TABLET
STAMPING

For Foot and Power Presses

Established 1894

ANTHONY J. FRIES & SON CO.

717 Sycamore Street — Cincinnati, O., U. S. A.

TETRA SODIUM PYRO PHOSPHATE

Crystalline-Anhydrous

Alkalies
Paradichlor benzene
Carbon Tetrachloride
Tri Sodium Phosphate

•

We are in a favorable position to work with you on your requirements for these and other chemicals used in the manufacture of soaps, detergents and sanitary products. Why not check with us?

•

JOHN A. CHEW, INC.
60 East 42nd Street — New York
Phone: MUrray Hill 2-0993

COLORS

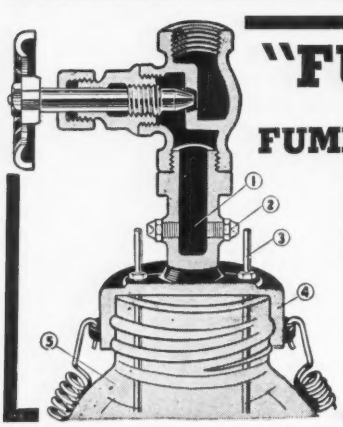
for

Toilet Soaps — Shampoos
Liquid Soaps — Lotions
Para Blocks — Hand Soaps
Shave Creams — Sweep Compounds
and other Chemical Specialties

* * * *

Does your product require a *certified color* under the new law? Let us advise you, and supply you with exactly the right color for the right purpose!

Interstate Color Co., Inc.
9 Beekman Street — New York
"Color it for greater sales appeal."



"FUMERAL" POWER SPRAYER

INSTANT DIFFUSION OF INSECTICIDES—
FUMIGANTS—DISINFECTANTS—DEODORANTS

(1) Operated by factory steam or air pressure—also by portable compressors or CO-2 gas. (2) Four pressure nozzles which account for Fumeral's well-known efficiency and economy. (3) Removable liquid tubes, easy to clean and to adjust. (4) Solid bronze casting of simple construction—safety screw thread—needle valve. (5) No pressure applied to the one quart or half gallon standard jar.

FUMERAL STATIONARY AND PORTABLE DIFFUSERS AND SPRAYERS HAVE BEEN SOLD BY LEADING JOBBERS AND DISTRIBUTORS FROM COAST TO COAST SINCE 1932 — YOUR GUARANTEE OF QUALITY AND DEPENDABILITY. — WRITE FOR DETAILS.

FUMERAL COMPANY — RACINE, WIS.

Soap Engineer—Native American, age 27. B.S. in Chemical Engineering, Armour Institute of Technology. Four years thorough basic training in control, research, development with large soap company. Seeking greater opportunities. Go anywhere. Address Box No. 985, care *Soap*.

Advertising—Man with many years' experience in the advertising and promotion of insecticides, cosmetics, drug products, and allied specialties, desires connection with a company in this field where his experience may be of value. For further details, communicate with Box No. 987, care *Soap*.

Soap Maker and Chemist with many years' experience making all kinds of laundry and toilet soaps, seeking change. Good references. Can take complete charge of manufacturing. Address Box No. 990, care *Soap*.

Superintendent—Can make all kinds of soap, analyze and reproduce anything in soap line; also recovery of glycerine, and know rendering business. Address Box No. 984, care *Soap*.

With years of executive experience in the formulation, manufacture, buying, sales and application of industrial chemical specialties such as soaps, synthetics, cleaning compounds, polishing compositions for metalcraft, automobiles and floors, self-polishing waxes, emulsions, lubricating greases, chemical water softeners, etc., and as chief chemist desires to hear from responsible parties interested in improving their present set-up by the addition of a new department or interested in the formation of a new corporation. Address Box No. 986, care *Soap*.

Trouble with Soap: Superfatting-Transparency? Expert will help you improve kettle-practice, formulae of any type soap and dry-mix-compounds. Analytical short-cuts and new ideas. Results guaranteed. Address Box No. 995, care *Soap*.

Insecticide Salesman—Man with seven years experience with two leading manufacturers selling insecticides, sanitary supplies to jobbers, hotels, institutions, etc., desires new connection. Good record and references. Address Box No. 996, care *Soap*.

Positions Open

Wanted—For medium size plant—Soapmaker, to take charge of production, cold process only. No amateurs wanted. Excellent opportunity, reply in confidence, details of experience. Address Box No. 994, care *Soap*.

Salesman with following to call on janitor and restaurant supply houses and institutions with disinfectants, floor waxes, window cleaners, pine scrubs, sweeping compounds on commission basis. Address Box No. 982, care *Soap*.

A New Departure In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER is now available in a new model,—with four forward and reverse speeds. The flexibility in operating technique afforded by this wider choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2400 and 3200 pounds.

HUBER MACHINE CO.

"Builders of Good Soap Machinery for the Past 45 Years"

265 46th STREET BROOKLYN, N. Y.

F. & S.

Quality Colors *for* TOILET SOAPS LIQUID SOAPS

TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.

205 FULTON STREET
NEW YORK, N. Y.

Import—Manufacture—Export

Buckingham's

NEW and PERFECTED FORMULAE
WILL BUILD BIGGER and BETTER SALES

A New Non-skid—Waterproof No Rubbing Wax
The Greatest Metal Polish—(white or brown)
The Finest Liquid Scrub Soaps
A Wax-base Pre-wax Cleaner
Paste Wax—Liquid Wax—Dance Wax
Upholstery Shampoo—Bowling Alley Polish
White Emulsion Furniture Polish—etc.

Buckingham • Bulk • Private Label

Buckingham Wax Corporation
Long Island City, N. Y.

ROTENONE
and
DERRIS RESINS

Manufacturers of finished insecticides have come, over a period of years, to look to DERRIS, INC. as headquarters for rotenone and derris products of all types. We are specialists in this field and are prepared to supply specifically compounded products made up according to each customer's varying needs.

Timbo Powder — Derris Powder
of Finest Grind

DERRIS, Inc.

79 WALL STREET NEW YORK, N. Y.

"Good" Products at "Good" Prices

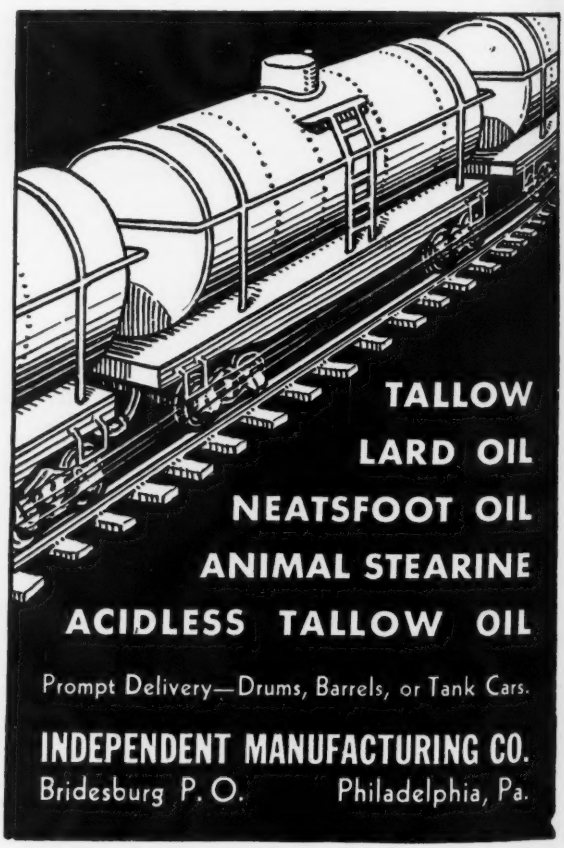
Manufactured by us under careful laboratory control.

DISINFECTANTS
Pine Oil
Coal Tar (Coef. 2 to 20)
Cresol Comp. U.S.P.
Cresylic

POTASH SOAPS
Liquid Soaps (up to 40%)
Soap Bases
Vegetable Oil Soaps (Paste and Liquid)
Pine Scrub Soaps (Liquid and Jelly)
Sassafrassy Scrub Soap
Soft Soap, U.S.P.
Auto Soap
Saddle Soap

SPECIALTIES
Self Polishing Wax (Up to 20% solids)
Buffing Floor Waxes (Liquid and Paste)
Liquid Metal Polish
Liquid Furniture Polish
Insecticide Sprays
Weed Killer (Liquid)
Fire Extinguishing Liquid
Soda and Acid Recharges
Drip Machine Fluid
Toilet Bowl Cleaner
Drain Pipe Cleaner
Roach Powder
Wax Base Cleaner
Coal Tar Animal Dip
Powdered Rosin

JAMES GOOD, Inc.
Manufacturing Chemists—Since 1868
2112 E. Susquehanna Avenue
Philadelphia, Pa.



Prompt Delivery—Drums, Barrels, or Tank Cars.

INDEPENDENT MANUFACTURING CO.
Bridesburg P. O. Philadelphia, Pa.

Miscellaneous

Rebuilt Guaranteed Machinery: Crutchers; Plodders; Jones Automatic Soap Press; Foot Presses; Proctor Soap Dryer; 12x30, and 16x40 Three Roll Water Cooled Steel Mills; 2, 3, and 4 Roll Stone Mills; Johnson Carton Sealers; Powder Fillers and Mixers; Chippers; (vertical and horizontal) Mixers; Grinders; Boiling Kettles; Cutting Tables; Soap Frames; Filters and Filter Presses, etc. Send for Soap Bulletin No. 402. Stein Equipment Corp., 426 Broome St., New York City.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Will Purchase Immediately—Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 991, care *Soap.*

For Sale: 1—Garrigue Single Effect Evaporator; Proctor & Schwartz Soap Chip Dryer; 60—Soap Frames; 4—1200 lb. H. A. Crutchers; 2—4000 lb. Crutchers. Brill Equipment Corporation, 183 Varick Street, New York City.

IF YOU MAKE USE HOOKER

Soaps and Cleaning Compounds
Insecticides
Germicides
Disinfectants
Deodorants
Fungicides

Bleaching Powder			✓	✓	✓	
Caustic Soda	✓		✓	✓	✓	
Cyclohexanol	✓	✓	✓	✓		
Chlorine		✓	✓	✓	✓	✓
Methyl Cyclohexanol	✓					
Monochlorbenzene		✓				
Orthodichlorbenzene	✓	✓				
Paradichlorbenzene		✓			✓	✓
Sodium Sulfide		✓				
Sulfur Monochloride		✓				
1:2:4 Trichlor Benzene		✓				

Many chemicals produced by HOOKER and distinguished for their uniformly maintained quality are widely used by manufacturers of soaps, sanitary chemicals and allied products. The experienced HOOKER technical staff is always ready to help solve problems connected with the choice and use of chemicals. Inquiries and consultation are invited.

HOOKER ELECTROCHEMICAL COMPANY
NIAGARA FALLS, NEW YORK
NEW YORK CITY — TACOMA, WASHINGTON

218

ON THE JOB!
BLACKMER ROTARY PUMPS
BLACKMER PUMPS — BUCKET DESIGN — AUTOMATIC TAKE-UP FOR WEAR

"ASK NO FAVORS!"

A few of the materials handled by Blackmer Rotaries—
Caustics
Acids
Alcohol
Mineral oils
Hot fats
Emulsions
Liquid soaps
Vegetable oils
Lube oils

Blackmer builds for hard service. 20 to 25 years continuous use is not unusual. That's why Blackmer rotaries deliver "MORE GALLONS PER PENNY."
Volatile or viscous, hot or cold, acid or alkaline, water or semi-solid, there's a STANDARD BLACKMER PUMP to handle the job.
Built in three standard constructions: unlined, lined or steam-jacketed, made in any castable, machinable metal or alloy. Capacities from 1 to 700 GPM. Prompt delivery on all units.
There is a Blackmer man within a few hours of any plant in the country. Write or wire for prompt action.

BLACKMER PUMP COMPANY
1893 CENTURY AVE., S.W. GRAND RAPIDS, MICH.

Neutral All-Purpose OIL SOAPS—nu-crown: flo-crown

Easy to use Crown Bases are Adapted for all maintenance work

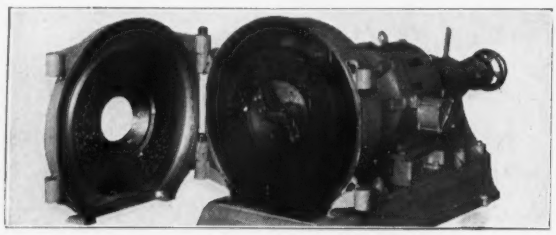
Made from refined vegetable oils, American Potash, and distilled water; Crown Base soaps are recommended for general cleaning purposes in hotels, office buildings, institutions, etc. Cuts grease, removes dirt and grime. Crown Base soaps work well on all surfaces safe in water.

Nu-Crown is a 60-65% soap. Lathers fast and heavy. Cleans thoroughly — rinses easily. **Flo-Crown,** a 75-80% soap, is recommended for use in making lower percentage soaps only. A semi-fluid base made easy to handle and easy to use.

SINCE 1918
THE MARK OF PREMIUM QUALITY SOAPS

Peck's PRODUCTS COMPANY
5224-40 NORTH 2nd ST., ST. LOUIS, MO.
NEW YORK . . . . KANSAS CITY

To Jobbers and Manufacturers



For Better Insecticide Blending — A Disc Blender

To insure a true blend—a perfect analysis of your product at all times—a uniformity of color—a better product for modern spray equipment, consider the Sprout-Waldron disc blender as a final finishing machine. It is being used by leading insecticide manufacturers with most gratifying results. It is a complaint stopper. Ask about it.

SPROUT, WALDRON & CO., INC.

132 SHERMAN STREET . . . MUNCY, PA.

MIXING, CONVEYING, POWER TRANSMISSION MACHINERY

CRESYLIC ACID

• • •

HIGH BOILING TAR ACIDS

• • •

TAR ACID CREOSOTE OIL

• • •

NAPHTHALENE

• • •

MIRVALE CHEMICAL CO., Ltd.

MIRFIELD YORKS, ENG.

QUALITY Plus ECONOMY

Victoria

TOILET TISSUES

NOW AVAILABLE IN BLEACHED OR UNBLEACHED

Fine tissues that meet the requirements of industrial plants, offices and institutions as to price and quality. Made by craftsmen with 60 years paper-making experience. Leading Paper Merchants sell VICTORIA tissues.

The Victoria Paper Mills Company

FOUNDED 1880 FULTON, N. Y.

202 Common Household Pests of North America by Hugo Hartnack

•

Just fresh from the press is this new text,—invaluable to the manufacturer of insecticides and the exterminator, dealing with common household insect pests. The contents total 352 pages, with some 300 illustrations.

$3.75 Per Copy

Send Check with Order to

MacNair-Dorland Co.

254 W. 31st St. New York, N. Y.

RAW MATERIALS AND EQUIPMENT

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, page 131, for page numbers. *"Say you saw it in SOAP."*

ALKALIES

John A. Chew, Inc.
Columbia Chemical Div., Pittsburgh Plate Glass Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Michigan Alkali Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

BULK AND PRIVATE BRAND PRODUCTS

Ampion Corporation (Soaps and Sanitary Chemicals)
Associated Chemists, Inc. (Insecticides)
Baird & McGuire, Inc. (Disinfectants)
Buckingham Wax Corp. (Wax Products)
Candy & Co. (Wax Products)
Chemical Mnfg. & Dist. Co. (Soaps and Sanitary Chemicals)
Chemical Supply Co. (Disinfectants, etc.)
Davies-Young Soap Co. (Soaps and Floor Wax)
Empire Chemical Products Co. (Wax Products)
Federal Varnish Co. (Wax Products)
Franklin Research Co. (Floor Products)
Fuld Bros. (Soaps and Sanitary Chemicals)
James Good, Inc. (Sanitary Chemicals)
R. M. Hollingshead Corp. (Soap and Sanitary Chemicals)
Hysan Products Co. (Sanitary Chemicals)
Koppers Co. (Disinfectants)
Kranich Soap Co. (Potash Soaps)
Pecks Products Co. (Soaps and Sanitary Chemicals)
Philadelphia Quartz Co. (Detergents)
Reilly Tar & Chem. Co. (Floor Seals)
Sweeping Compound Mfrs. Co. (Sweeping Compound)
Uncle Sam Chemical Co. (Sanitary Chemicals)
T. F. Washburn Co. (Wax Products)
White Tar Co. (Disinfectants, etc.)
Windsor Wax Co. (Wax Products)

CHEMICALS

American-British Chemical Supplies
Chemical Mfg. & Dist. Co.
John A. Chew, Inc.
Columbia Chemical Div., Pittsburgh Plate Glass Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Michigan Alkali Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
Reilly Tar & Chemical Corp.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
Baird & McGuire, Inc.
Barrett Co.
Innis, Speiden & Co.
Koppers Co.
Mirvale Chemical Co.
Monsanto Chemical Co.
Pittsburgh Coal Carbonization Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Interstate Color Co.
Pylam Products Co.
Tamms Silica Co.

CONTAINERS AND CLOSURES

American Can Co. (Tin and Fibre Cans, Steel Pails)
Anchor-Hocking Glass Corp. (Closures and Bottles)
Continental Can Co. (Tin Cans)
Crown Can Co. (Tin Cans and Steel Pails)
National Can Co. (Tin Cans)
Williams Sealing Corp. (Closures)

DEODORIZING BLOCK HOLDERS

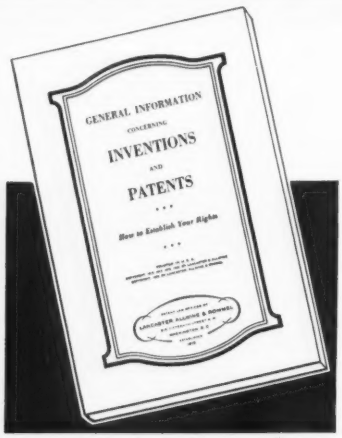
Fuld Bros.
Hysan Products Co.

INSECTICIDES, SYNTHETIC

Associated Chemists, Inc.
Dodge & Olcott Co.
John Powell & Co.
Rohm & Haas Co.
U. S. Industrial Chem. Co.
Whitmire Research Corp.

MACHINERY

Anthony J. Fries (Soap Dies)
Blackmer Pump Co. (Pumps)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Karl Kiefer Machine Co. (Filling Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
J. M. Lehmann Co. (Soap Machinery)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc.)
Stokes & Smith Co. (Packaging Machy.)



Send for a copy—it's free

Interesting booklet concerning Inventions, Patents, Trade-Marks and Copyrights, together with Schedule of Government and Attorney's fees, sent free on request. Simply ask for "booklet and fee schedule." No charges are made for preliminary advice, either in connection with patent, trade-mark or copyright cases.

Lancaster, Allwine & Rommel

Registered Patent and Trade-Mark Attorneys

402 BOWEN BLDG. WASHINGTON, D. C.

Classified Advertising

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of $2 per issue (position wanted advertisements accepted at half rates). Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of *Soap.* It will place you in touch with the entire soap and sanitary chemical industry.

★ ★ ★ ★

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.

Manufacturing Chemists, Importers, Exporters

799 Greenwich St. New York City

Cable Address: "Pylamco"

Direct Subway Entrance to all Points of Interest

New York's Popular

HOTEL

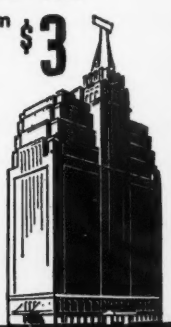
LINCOLN

44TH TO 45TH STS. AT 8TH AVE.

OUR CHOICEST ROOMS From $3

1400 ROOMS each with Bath, Servidor, and Radio.

★ Four fine restaurants awarded Grand Prix 1940 Culinary Art Exhibition.



MARIA KRAMER
PRESIDENT
John L. Horgan
Gen. Mgr.
HOTEL EDISON
SAME OWNERSHIP

IN THE CENTER OF MID-TOWN NEW YORK

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MACHINERY, USED

Consolidated Products Co.
Brill Equipment Corp.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator and Mops)
Anchor-Hocking Glass Corp. (Metal Caps)
Continental Car-Na-Var Corp. (Floor Machines)
Crosby Naval Stores, Inc. (Pine Oil and Rosin)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
Filtrol Corp. (Purifying and Decolorizing Clay)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants)
Koppers Company (Coal, Coke, Roofing Materials)
Newport Industries, Inc. (Pine Oil and Rosin)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
Reilly Tar & Chem. Co. (Preservatives)
Victoria Paper Mills Co. (Toilet Tissues)

OILS, FATS, AND FATTY ACIDS

Eastern Industries
Emery Industries, Inc.
Independent Manufacturing Co.
Industrial Chemical Sales Div.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
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Felton Chemical Corp.
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Fritzsche Brothers, Inc.
General Drug Co.
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Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

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Pennsylvania Refining Co.
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L. Sonneborn Sons, Inc.

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Victor Chemical Works
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USE of the 1940 Official Test Insecticide for evaluating liquid household insect sprays by the official method of the National Association of Insecticide & Disinfectant Manufacturers will remain official until June 1, 1941. At that time, the new 1941 O.T.I. will be available for distribution to testing laboratories and will be official from June 1, 1941 to June 1, 1942. Accordingly, current stocks of 1940 O.T.I. will be good until June 1 next.

▼

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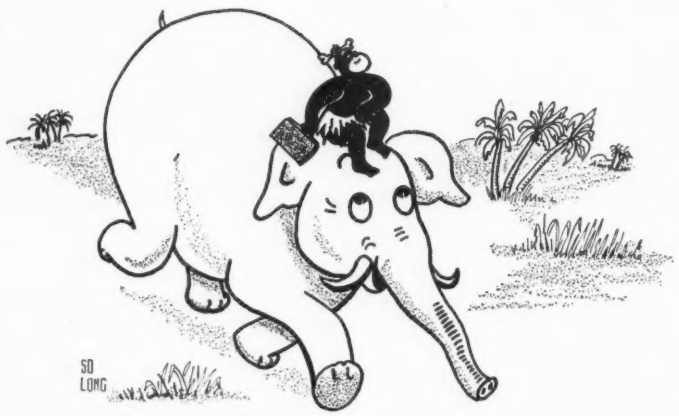

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* * *

In the stomach of the roach are "parasites" which when the roach devours some poison, "eat" the poison and save the roach much discomfort. This is from a news report headed, "Scientists Discover Cockroach Secret." We have often wondered why some of these roach powders never killed anything,—and now we know.

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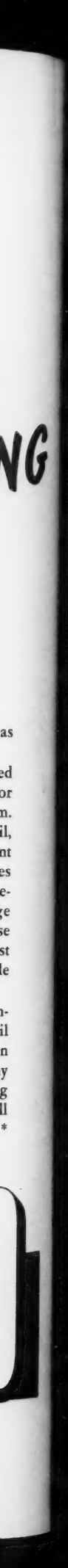
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